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This issue is dedicated to the family and friends of Roger Mulcahy who passed away on December 3

This Week Features

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■ **ERAU Trustee receives award**

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AVIONICS

An Award-Winning College Newspaper

December 5, 1984

Embry-Riddle Aeronautical University, Daytona Beach, Florida

Volume 48, Issue 12

Dorm parking lot crash claims student

By Brian Finnegan

An Embry-Riddle student died Monday morning of massive head injuries resulting from a motorcycle accident in the Dorm 1 parking lot Friday afternoon. Another student, the driver, is in satisfactory condition with a separated kneecap at the Halifax Hospital.

Roger J. Mulcahy, 18, an

Aeronautical Science freshman, was fatally injured when the Honda Nighthawk on which he was a passenger struck a 1977 Ford Mustang at about 2:45 Friday afternoon. The parking lot is adjacent to, and directly east of, the pool area.

Paul Sitar, 20, was the driver and owner of the motorcycle which collided with the automobile driven by Ann Marie

Golightly, an Aviation Management student. Ms. Golightly was shaken, but unhurt. Neither of the injured students were wearing helmets.

The new 700 cc Honda Nighthawk was southbound on the west side of the Dorm 1 parking lot when it moved in to the left lane to pass a parked university maintenance truck. It struck the left front of the Mustang as

Ms. Golightly was exiting the parking lot. Upon seeing the approaching motorcycle, Ms. Golightly stopped, but was nevertheless struck as it passed the truck.

During an informal discussion in his hospital room, Sitar said he was traveling at 30 to 35 miles per hour. The two students were valued 42 feet off the motorcycle past the point of impact.

Mulcahy, an Alpha Eta Rho fraternity brother and a member of the Embry-Riddle precision flight team, was in a medically-induced coma when he died at approximately 10:00 a.m. Monday. Because of a brain concussion, the coma was induced to lower the activity of his body functions.

In an outpour of support for their injured brother, Alpha Eta Rho brothers gathered at the

hospital with Mr. and Mrs. Mulcahy, who had flown in from their home in Staten Island, N.Y., for the duration of the highly emotional ordeal. According to Alpha Eta Rho president, Mitch Williams, two fraternity brothers, Ron Pantalea and Danny Smith, drove to Orlando Friday evening to pick up the

See Crash, page 3



A Lockheed WP-3D Orion operated by NOAA is seen flying in formation with a Lockheed C-130 Hercules Survey Aircraft.

The Orion aircraft is used for hurricane penetration and other weather phenomenon surveys.

NOAA Hurricane Hunter to display during Spring

Lockheed P-3 Orion has 3800 mile range

By Rob Dixon
Avion Staff Reporter

The National Oceanic and Atmospheric Administration (NOAA) P-3 Orion Hurricane Hunter is operated by the NOAA Office of Aircraft Operations (OAO) based at Miami International airport. The Lockheed Orion aircraft support Oceanographic and Atmosphere research as well as provide hurricane penetration capabilities. Recently these aircraft have participated in acid rain studies, investigating the Arctic icepacks and, most recently, studying the El Niño Phenomenon in the Pacific which reeked havoc on the West coasts of South, Central and North America. These aircraft allow Scientists to penetrate the very storms and phenomena they wish to study and the unpredictable hurricanes and thunderstorms are then better understood.

The Orion is among the worlds most advance instrumented research vessels and have operated throughout the Free

World, participating in a wide variety of research missions.

The four-engine, 135,000 lb. Orion has a 12-hour endurance and a 2500-3000 mile range. They penetrate storms at 220 kts and have a maximum speed of 350 kts. and a ceiling of 37,000 feet.

Each Orion has 8 Scientific Study Stations including a Cloud Physics Station, a Radar Station, and a Gust Probe Station, and a cockpit station for the mission specialist.

The OAO also operates a fleet of Bell UH-1 helicopters for aerial photography and the transportation of scientists to remote areas.

Turbo- and Shrike Commanders round out the OAO Fleet. These Aircraft are primarily used for precision photography and NOS Nautical Chart Programs.

Frank Wencel, Meteorology Professor here at Embry-Riddle, has coordinated with the NOAA for a fully staffed and equipped P-3 Orion to visit the school. It

See NOAA, page 17

Two escape injury in Prescott accident

By Mark Misunas
Avion Correspondent

An Embry-Riddle, Prescott aircraft, 915 ER, flew into the south slope of a ridge one mile south of Walker, Arizona on Friday, September 28, 1984, at approximately 11:45 p.m. MST. The occupants of the Riddle Cessna 172Q were on the last leg of a night dual cross-country and escaped with minor injuries.

The aircraft was completely destroyed in the crash. The right wing, tail assembly, empennage aft of the cabin, engine, engine cowl, left gear-strut wheel, nose-gear strut and wheel, right wing

strut, and left door all separated from the cabin compartment. The left wing and strut tore away from the cabin compartment on final impact and folded around to the right side of the cabin.

The occupants of the aircraft survived with minor injuries. The instructors statement is as follows: "We took-off from Prescott a little after nine at night. We opened our flight plan (Round Robin PRC-CCG-PHX-PRC). Things went as planned on the way down.

AC/ET end in sight

By Richard Galvert
Avion Staff Reporter

Some years ago, the officials here at Riddle thought it wise to introduce a new degree program into the school's curriculum; that of Aircraft Engineering Technology. It was created in an attempt to assist ERAU students in the related career field. According to Dr. Luther Reibsig, Dean of Engineering and Aviation Science, when the Accreditation Board of Engineering Technology (ABET) evaluated the course requirements, it decided that certain classes needed to be added in order to receive official recognition of the degree program. Following the Board's instructions, Embry-Riddle instituted what is now the AC/ET Core Curriculum.

In the time of AC/ET's existence, it has become apparent to school administrators that the program is, in effect, a second redundancy to the Aeronautical Engineering Degree. In addition, Riddle graduates are having quite a bit of difficulty in securing employment in a related job. Dean Reibsig commented that the University is having "a great deal of difficulty 'philosophically' with the program." As a result, the Dean also stated that Embry-Riddle is "acting as if the program will be phased out." This will not occur, however, until the Board of Trustees officially declares so.

The school has actually stopped recruiting people into the

See AC/ET, page 17

Degree programs change

By Suzanne Q. Corcoran

Several changes have been made to Embry-Riddle's degree programs and all have been approved by the Board of Trustees. The changes are as follows: Four Associate Degree Programs have been eliminated:

- 1) A.S., Aircraft Engineering Technology
- 2) A.S., Aviation Maintenance Management
- 3) A.S., Aeronautical Studies
- 4) Associate in General Aeronautics

The A.S. degree program in Avionics Maintenance Technology will now be referred

to as A.S., Avionics Technology. A four year program leading to a B.S. in Avionics Technology will also be offered.

There will be a new program offered entitled B.S., Airway Science. This program is approved by the FAA, and includes three areas of concentration.

A B.S. degree in Electrical Engineering has been approved and will be offered at the Prescott campus beginning in 1986.

The B.S. in Aviation Administration and B.S. and A.S. in Aviation Management degree programs have been incorporated into new programs under the title of Aviation Business Administration.

The student had trouble hearing what the different agencies said to him, he also had some trouble hearing me.

"We did a touch and go both at CCG and PHX. We then started for PRC. We climbed to 10,500 and had ABQ Center VFR Flight following all the way. At 30 miles out we decided to descend. As we descended, we called FSS and got the local altimeter setting. It was then that I realized we had descended too low. I was showing the student VOR intercepts and we were trying to get back on course. I had told the student to start a climb. We then saw trees (the pre-descent

See Prescott, page 17

Board names DiGirolamo

Dr. Tony DiGirolamo has been appointed by the City of Ormond Beach to the Ormond Beach Airport Advisory Board. The Airport Advisory Board normally advises in the areas of airport planning, promotion, airport improvements, operations, service and community relations.

Dr. DiGirolamo earned a BS degree from the University of Nebraska, a Master of Education from Rollins College, and a Doctor of Education from Nova University. He spent twenty years in the U.S. Air Force as a jet instructor pilot and staff officer at the headquarters level.

He flew a combat tour in Southeast Asia and was

decorated with the Bronze Star, Legion of Merit, and Air Medal. Dr. DiGirolamo is a certified social studies teacher and educational administrator. He is also an active FAA certified multi-engine instrument instructor pilot.

Presently, he is employed with Embry-Riddle Aeronautical University where his appointments have included teacher, department chairman, and college dean. He was also the executive secretary for the University Aviation Association. He currently manages an aviation consulting business.

See DiGirolamo, page 17

Editorial

Attitude problem affects all students
Campus safety issue hits home with death

In the blink of an eye, one student is dead, another is hospitalized, two vehicles are destroyed and the tranquility of an entire campus is shattered during the aftermath of a high-speed accident in the dorm parking lot.

Our campus is deeply saddened as a result of this eventuality, but this does not change the fact that this kind of student behavior has become an almost acceptable way of life on campus.

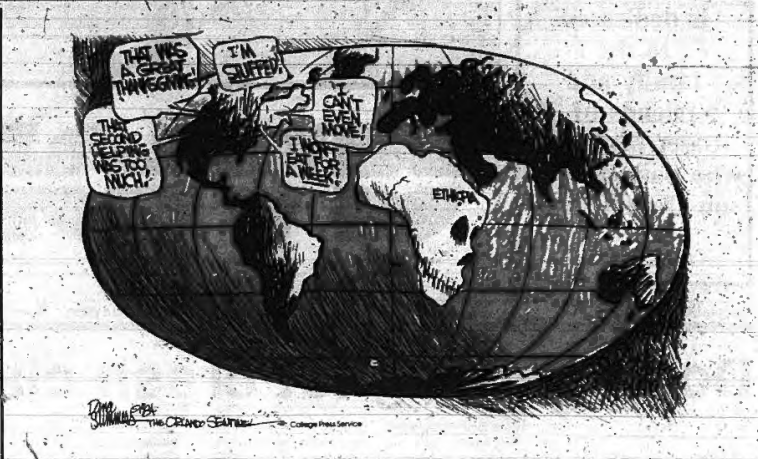
Motorcyclists are frequently seen cruising the campus without helmets and short bursts of speed are not uncommon at all for both automobiles and motorcycles alike.

Must we really move toward a police state to ensure the safety of the people who use this campus? Just what is it going to take to raise the consciousness of our student body to the level where safety is as much a priority as getting to happy hour?

There is a general attitude of insolence that permeates the campus. One faculty member recently noted that three days in a row he observed students driving into and using the faculty parking lot.

What is it? Is it bitterness about tuition? About walking through six inches of rain to class? About watching the library "fall" down and hearing "it's only cosmetic?"

If it's peer pressure that is the prime motivator behind group actions, then let it begin here. Don't expect to blow off safe driving habits with the Avion around. It is time everyone realized we are not going to stand around with our hands in our pockets while the university and the student body ignores our basic right of safe transit on this campus.



Letters

OK, I apologize

To the Editor:

I did not mean to offend anyone in my previous letter to the Avion. My main concern was the safety of bicyclists who use the bike path.

I guess any two guys in the world can buy camouflage fatigues, get crewcuts, paint their face camouflage and play Airborne Ranger 1 mile from campus, so in some people's minds my implication becomes an unsubstantiated allegation.

Lt/Col Spradlin also informed me that ROTC is not a paramilitary organization, but a "recognized college-accredited program designed to train students to become leaders in the military."

with young lieutenants just entering service.

Affectionately known as "butternut," their motivation, enthusiasm and eagerness to accept any responsibility even remotely bestowed upon them always instilled in me a certain "intestinal fortitude."

Thank You Bill Berry Box 2665

PC lab unfair

To the Editor:

This matter is in reference to our new PC lab. This lab was installed to benefit us and it is far from doing just that.

First of all, we pay the same lab fee as the HP users, but we have less services offered to us. We provide our own disks and these disks, keep in mind, are not inexpensive.

The hours that one can work in the PC lab? Who knows. They're posted on the door but that does

not mesh the lab will be opened or closed at those hours. It was rumored that the hours were cut because of insufficient funds for the lab.

With the increase of tuition in the fall of 1983, I suggest that you spend some money on more printers. The five or six printers we have are supposed to be reserved for printing only, but most of the time they are not.

It seems that this school is not functioning on the level that it should be since it claims to be of such high caliber.

I propose charging two different lab fees according to the lab required for the course or improve the PC lab.

Name Withheld

Too much control?

To the Editor: It has come to my attention that one organization has become the main force in campus policy making.

I am, of course, referring to Lambda Chi Alpha. In the past few months, I have been privy to numerous complaints from my fellow students as to the seemingly dictatorial stance some of the Lambda Chi brothers have assumed.

Also, another thing that surprises me is that in filling out their Graduation applications, students write non-existing degrees, like "Airplane

fraternity controlling the student government, the student court, and therefore so much of students life.

The present situation disturbs me tremendously and I would like to know how such events came to be. Should one fraternity be allowed to hold so many important positions at the same time? Is this good for our school? Can we live with things as they are? And most of all, is it a fact that Lambda Chi Alpha is in control of these important positions and what are the university and the students to do if this is indeed the way things are?

A Concerned Student

'Mad' wrong

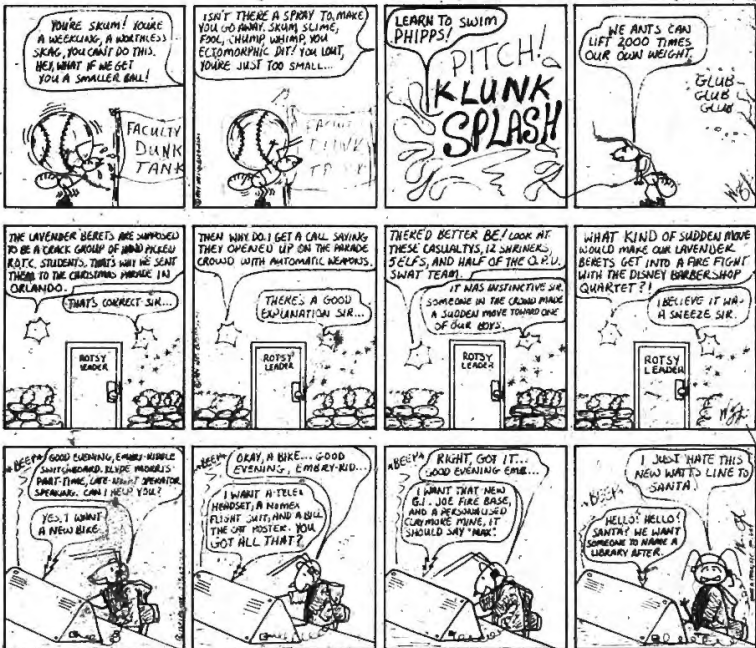
To the Editor:

For the past year I have been working as a student assistant at the Registration & Records Office. I would very much like to answer the fellow student who is "Mad as Hell," but unfortunately he doesn't have the guts to write his name. If he did, then we could see why he had all that trouble with his folder, etc.

See Letters, page 3

Klyde Morris

wes oleszewski



the avion

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The opinions expressed in this newspaper are not necessarily those of the university or of all the members of the student body. Letters appearing in the Avion do not necessarily reflect the opinions of this newspaper or its staff. Letters submitted may be edited for brevity and may be printed provided they are not defamatory, obscene, or libelous. All letters must be accompanied by the signature of the writer. Names may be withheld on request at the discretion of the Editor.



It's in your hand
by Doc Horvitz

I bought a piece of land and received title, insurance, and the deed. I then applied for a loan to build on this piece of property, but the bank says they cannot get clear title for insurance on the property because the land was previously deeded to other people by the company from which I made the purchase. I cannot get in touch with the former owners to get a quit claim deed and in the meantime, cost of building materials is rising, what can I do?

Convictions, deeds and preparing wills

Your situation appears to be a complicated one. You may have an action to quiet the title to the property against the company from which you purchased the property and the people who claim under that company. If those people have a better title than you and your deed is a warranty deed, you may have an action against the company under the common law covenants of warranty in the deed.

Be careful if you make out your own will.

Any person 18 or more years of age who is of sound mind may make a will. It does not need to be prepared by another and may be handwritten so long as it is signed and witnessed according to law.

My boyfriend was recently arrested for a crime. Since his arrest, they have arrested another person for this particular crime. The only evidence they have to hold my boyfriend on is a scar. Can he be convicted with only this evidence?

It is impossible to answer this question without having sufficient facts because guilt or innocence and the possibility of conviction depend on the facts. The State must have sufficient evidence to prove the defendant guilty beyond and to the exclusion of every reasonable doubt before the law permits him to be convicted. The defendant is presumed innocent under our law until the state carries their burden of proof. If they cannot, he should be acquitted.

We have a Canadian citizen who got his permanent Florida resident papers, but retained his Canadian citizenship. He then died. His attorney in Canada is responsible for paying estate expenses as well as sending me a monthly check for my educational expenses. I cannot get the checks from him. What can I do for help?

You are entitled to an explanation even if there were good reason for delaying payment to you. If the estate is under supervision of a probate court, you could write to the judge about the problem. If the estate is under private trust administration, you may need to engage Canadian counsel for assistance.

neighbor of mine sexually molesting his eight-year-old girl. I sure would like to report this, but do not want to be a witness or give my name. The man is very influential in the community. What should I do?

You should immediately report the incident to the Department of Health and Rehabilitative Services in your city! Your concern for confidentiality has been anticipated by Florida law, and your report will be held confidential by the agency. The law further provides that anyone who makes such a report shall be presumed to be acting in good faith, and because of this, shall be immune from any liability, civil or criminal. Upon such a

report, the agency performs an investigation which includes the right to have the child examined by a physician. If upon investigation, the Department of Health and Rehabilitative Services suspects that the child has been criminally abused, the department will then notify the state attorney's office and the appropriate local law enforcement officers who shall assist in investigation and, if warranted, prosecution.

[Due to the complexity of the law, questions answered in this column are of a general nature, and may not necessarily apply to a similar legal problem.]

Daytona Museum Hosts 'Star of Bethlehem'

DAYTONA BEACH, What was the Star of Bethlehem? Was it a natural event or was it a special sign in the heavens seen only by the Magi? Two thousand years ago, Persian priests saw an unusual star in the sky and followed it to a small village in Judea, called Bethlehem, where they found the baby Jesus.

For many years, people have wondered about the Christmas star. Traditionally, around the world planetariums have examined the origins of the star at this time of year.

The Museum of Arts and Sciences Planetarium will present "The Star of Bethlehem" during the month of December every Wednesday evening at 7:30, as well as Saturday and Sunday

afternoons at 2:30. This special starshow was written by Planetarium Curator Lee Golden and will examine several natural explanations for the star seen at the time of Jesus' birth. In addition, the program includes a discussion of the constellations visible during the winter months.

This Christmas program is designed for family entertainment and education. Admission is \$2.00 for adults, \$1.00 for children and free to Museum members. Special showings for large groups can be arranged.

"The Star of Bethlehem" begins on Wednesday evening December 5 and will continue until December 30. For more information, call the Museum at 255-0285.

Presidents Corner

The Student Government Association has been approached by a newly formed organization called the Florida Independent Student Association (FISA). The purpose of FISA is to gather all private institutions within Florida sharing student government related ideas and policies, and, most of all, to report to the State Legislators if problems arise in the private sector.

As an example, the Florida tuition voucher for those students who graduated from a Florida high school has been having budget problems these past few years causing the grant amount to fluctuate. FISA could address this topic in Tallahassee. FISA is also looking into relating with other student organizations. Those included are Florida Student Association which represents all the State schools,

Florida Junior Colleges Student Government Association representing all Florida Junior Colleges. This combined effort will total over 7-2 million students state-wide.

I personally feel FISA has been needed for a long time. Private institutions differ greatly from public institutions in Federal and State funding, tuition, policies, laws and governing. With FISA, our SGA will relate with other SGA's in the private sector. To list a few private schools looking to join or, already joined: FIT, University of Miami, Bay's St. Leo, Nova, Bethune Cookman, Stetson and Jacksonville University. If you have any input on this subject, please stop by to discuss it.

Thomas M. Conard III
SGA President

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Crash (continued from page 1)

that time no less than five brothers were with them at all times, said Williams.

The latest Alpha Eta Rho pledge period, of which Mulcahy was a member, ended Saturday with the ritual pinning of brotherhood wings on each candidate. At Mulcahy's father's suggestion, and with the support of the hospital staff, Roger was pinned during a small ritual held while he rested quietly in the Intensive Surgical Care unit.

Investigating police officer Rick Rivers, of the Daytona Beach Police Department, said that no charges had been filed

with respect to the accident stating, "You don't want to charge someone too soon in an accident like this." He said the report would take several days because the data needed to be analyzed thoroughly. He was unable to say whether motorcycle helmets would have lessened the injuries.

University officials have likewise made no statements on charges to be filed. Robert Rockett, Dean of Student Affairs, said the concern right now was for the students and for their families. He did say, however, that he had asked for recommen-

dations from the campus Safety Committee, chaired by flight administrator Greg Nell, and from the campus housing office.

Father Kenan Morris, the university chaplain, was with the families for most of the weekend. Fr. Morris was awed by the faith evident in the manner of the Mulcahys. He said he had never seen such strength from a bereaved family.

Memorial services will be held in the University Center on Saturday, December 8, at 7:30 p.m. All are welcome to attend.

Letters (continued from page 2)

Technology." That means, for four years they didn't know what their major was. Apathy on changing their names or addresses to the correct one, creates trouble for us working here and to themselves, because their grades are sent to the address given to us and they come here to complain.

These are just some of the examples that we face every day in that office and I'm sure that Mr.

"Mad as Hell" falls into one of them.

As for the evaluators and the Records Analysts (the ladies in the front), I think most of the students are satisfied with their help and cooperation. They are doing their best to help and if sometimes there is somebody waiting at the counter for one (and never for 3 or more) minute, it's because the ladies are on the phone helping one of us.

Mr. "Mad as Hell" wrote that he did not print his name because he did not want to jeopardize his graduation. Who does he think the Administration people are, that they would not let him graduate after this letter? Everybody laughed at that letter because of the many lies in it and the irresponsibility of the fellow student.

Dimitrios Roussos
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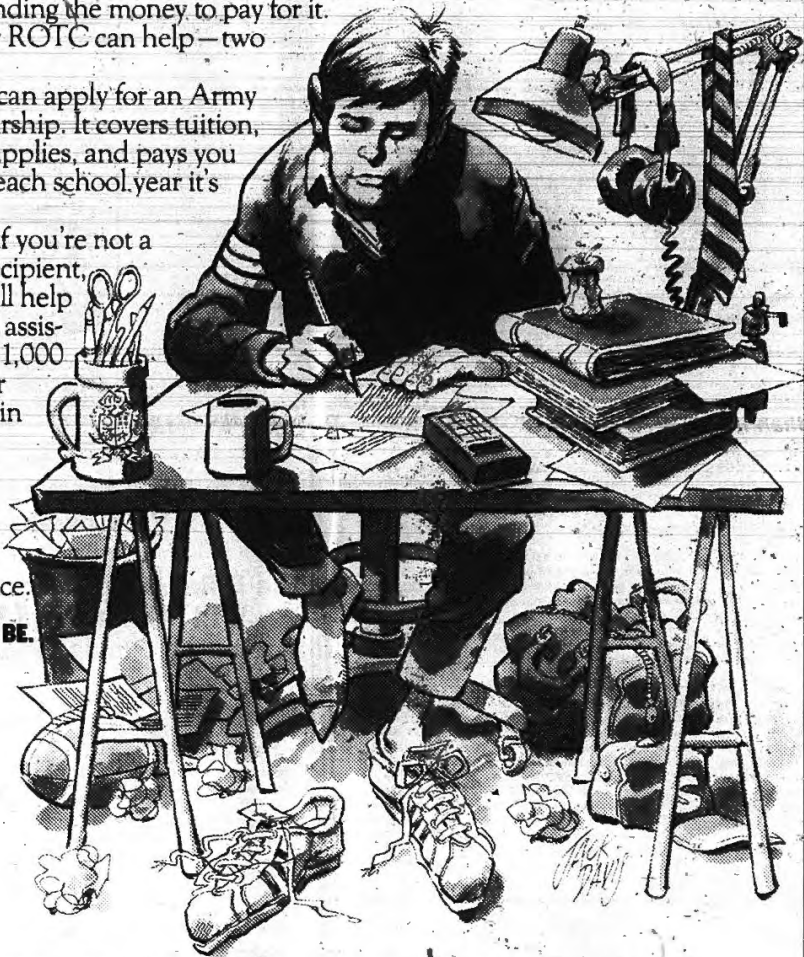
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More states expected to link college to the military

MEMPHIS, TN. (CPS) A court okay of a law forcing Tennessee students to prove they registered for the draft before they can enroll at a state school could mean students in other states soon may have to prove it, too, draft opponents say.

But at the same time, the U.S. Department of Education last week said students' honesty in signing military registration forms has been so complete the department won't require colleges to prove their students' registration in order to get student aid.

Until now, students' signatures on a form bearing they'd registered for the draft had been proof enough that they'd actually

signed, but as of January 1, colleges themselves would have been responsible for proving students who wanted federal aid had registered.

Tennessee's new law requires students to sign forms certifying they've registered with Selective Service just to enroll in a state school, much less to qualify for federal student aid.

As a result, Memphis State University refused to let 19-year-old Thomas Vogel start classes -- Massachusetts, Maine, Pennsylvania, California, and West Virginia among them -- already have toyed unsuccessfully with laws to keep nonregistrants from getting state aid, says Nora

Leyland, a spokeswoman with the Committee Against Registration for the Draft (CARRD).

"I foresee more states enacting Solomon-like bills tying all kinds of aid and access to draft registration," she says. "It's not going to automatically happen in every state because the political horizons are so different. But I think some states will definitely try."

The Selective Service's Lamb, however, doubts such state laws will affect many students.

"The Solomon Amendment was terrifically helpful (in getting students to register)," she says. "We saw a tremendous jump in registration in the fall when many students were returning to school

and applying for aid."

"It's very difficult at the national level to tell if the Tennessee law has made much of a difference," Lamb says, since only a small percentage of eligible students have failed to register.

Ippeed; Vogel is the only student who has refused to sign the Tennessee state compliance form so far, says John Eubank, Memphis State's Dean of Admissions.

Beginning this fall, students "who were eligible to register were merely required to sign a statement saying they've registered for the draft," Eubank says.

"It means some extra time and expense and just one more headache" during enrollment.

because he refused to sign the compliance form.

Vogel then sued the university and the state, claiming the law unconstitutionally involved the state in enforcing federal Selective Service laws.

Pointing to a controversial July 1984 Supreme Court ruling upholding the Solomon Amendment -- the federal law which requires students to prove they've registered for the draft before they can get federal financial aid -- U.S. District Judge Thomas Wiseman recently approved the Tennessee law.

"As the nation's defense goes, so goes that of the states," Wiseman ruled.

No one is sure how much laws help. "I don't believe we've ever found a nonregistrant because (he) refused to sign a college compliance sheet," says Selective Service spokeswoman Joan Lamb.

"There is no requirement for colleges to do anything like turn over the names of students who don't sign a compliance form."

In fact, the Selective Service has prosecuted only 17 of the estimated 300,000 nonregistrants, Lamb adds.

Both Lamb and the Education Department say they're impressed with the number of students who have complied with the registration law and the Solomon Amendment.

Edward Elmendorf, assistant secretary of education, last week said he was so impressed with students' "honesty" that he was relieving colleges of the chore of proving students were telling the truth when they signed their compliance statements.

Still, registration opponents say they expect more states will keep trying to link college to the military in other ways.

Tips for coping during final examinations

By Lynne Evans, M.S. The Counseling Center

You are sitting at your desk with your exam staring back at you. The clock is ticking away. The answers to the questions are elusive. You know all this material when you walked into this room, but it seems to have disappeared. Your palms are sweaty and your heart is beating in your ears. You cannot concentrate on anything except for your desire to leave the room. You are experiencing a severe case of test anxiety.

may have appeared while you were attempting to prepare for your exams. An inability to sit still and concentrate are common signs of test anxiety. As exam time approaches, a certain amount of anxiety producing anticipation is sure to fill even the most diligent student. Feeling a little stress about the impending exam is quite natural and will help to keep you physically and mentally alert, therefore helping to improve your performance. Too much anxiety, however, can produce mental blocking and physiological distress.

test anxiety is to be prepared. Use your good study habits so that the material to be covered on the exam is familiar to you well in advance. Try to avoid cramming of new knowledge the night before the exam. Reserve that for review. Attempt to get a good night's sleep and avoid large amounts of caffeine and sugar.

The key to combating anxiety is to do everything possible to avoid putting yourself in a stressful state. Make sure that you arrive for your test with time to spare. Use that time to relax. Take some slow deep breaths and concentrate on something pleas-

ant. Be aware of the posture of your body and the tenseness of any muscles. Make yourself comfortable, because tense muscles and a poor posture will detract from your concentration.

When the test is dispensed, take the time to review through it and read all the directions. By doing that, you can get an idea of how to budget your time. Reviewing the test can also help to relieve some tension by taking away some of the fearfulness of the unknown. Concentrate on what you are doing, do not allow your mind to wander.

By employing all of these strategies you will, most likely, have increased your chances for a good test performance and decreased your anxiety level. Good luck!

Study Skills Programs with weekly topics covering Time Management, Note Taking, Textbook Reading and Test Taking Skills will be offered by the Counseling Center beginning the third week in January. If you are interested or would like more information, contact Lynne Evans in the Counseling Center.

Avion move and Jazzfest topics were highlighted during SGA meeting

The AVION, under the leadership of Brian Finnegan, is transitioning into a larger, more productive unit. Not only is the AVION/PHEONIX staff set to move into the Faculty/Staff

lounge, a 43 percent increase in working space compared to the current newsroom-but there will also be an interface between computer aided typesetter and a network of IBM PCs.

tion at the meeting was the possibility of helping to sponsor Ms. Renee Smith, an E-RAU student, in her endeavors to compete in the Ms. New York State beauty pageant to be held next January.

There is more to a word than is always spoken of

By Jack Anderson and Joseph Spear

FUDDLE FACTORY: If you can't make much sense out of the esoteric pronouncements of the economists who profess to know where the country is headed, take heart: Some of our top officials share your bewilderment. Consider this example of flapdoodle perpetrated by the president's Council of Economic Advisers in a recent internal memo:

"Financial regulatory agencies are intertwined and interconnected. If we think of the various regulatory goals as being represented as points on the circumference of a circle, there are lines across the circle connecting each point with all the other points in a tangled web. In shaping regulatory policy the entire circle and all the interconnections must be kept in view. Yet a written analysis is necessarily linear."

In going through this phase both publications will significantly save time, cost, and energy as well as increasing their productivity ratio. This was one of the more newsworthy topics discussed at the Nov. 20th meeting of the SGA.

Also present at the meeting was the newly appointed Entertainment Committee chairman, who reported that only 250 people attended the Jazzfest concert earlier this month. There were about 1000 tickets printed for the function.

In other news, there was discussion on the possibility of hanging one of AMT's Pitt Special aircraft in the University Center dining area.

E-RAU Trustee receives award at year-end meeting

WASHINGTON, D.C.—Allen E. Paulson, chairman of the board and chief executive officer of Gulfstream Aerospace Corporation, was awarded the distinguished service award of the General Aviation Manufacturers Association (GAMA) at the association's year-end board meeting this month.

The award was presented by GAMA to honor outstanding service in Paulson's role as 1984 chairman of the trade association, representing 36 manufac-

turers of aircraft, engines, electronics and other equipment.

Paulson holds many other distinctions in technical and engineering areas, including five patents for his combination propulsion aircraft. He was also presented the General James Doolittle Trophy by the Society of Experimental Test Pilots in 1982 for exceptional technical, engineering and management accomplishments.

Paulson is a member of the Board of Trustees of E-RAU.

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Reserve Officers select Cadets of the Month

By Paul Valente
ROA Correspondent

ROA members Mark Hagen, Miroslav Lekby, Mark Serpell and Don Skakweber were all congratulated for being chosen as AFROTC Cadets of the Month for September. Once again, ROA members were selected as AFROTC Cadets of the Month

for October. They are Dave Brescia and Tom Brennan. Our congratulations for their outstanding achievement. Due to the enormous success of Aviation Awareness Day, plans have already been made to host the JROTC cadets from Deland some time in the Spring. Deland JROTC has shown a great deal of interest in this event, since it ex-

poses the cadets to the daily operations of an airport. Besides the positive response shown by the Mainland JROTC cadets, ROA is expecting a large turnout. Also discussed were the events surrounding the carwash held on November 11 which grossed over \$60 in the first two hours. More car washes are expected to be

held in the Spring. Other events which proved worthwhile were Airborne and Survival Day. Both of these prepare the cadets physically and mentally for Summer Camp Training. Airborne gave a general outline of what is expected from the cadet as well as what the cadet may expect from the training. The same holds true

for Survival Day. This activity allowed the cadets to learn how to live off the land and set up make-shift shelters. These both benefit the future officer and ROA congratulates those who attended and "survived." An item of major importance was the discussion of the ROA Scholarship. It was unanimously voted by all members to change the current three \$100 grants to two \$250 grants. The change will take effect this trimester. Photos for the Phoenix Yearbook were taken at the meeting.

But, due to photo lab difficulties, there will be a retake at the next meeting. Members are urged to wear the short-sleeve combo uniform. A tentative date for ROA Banquet '84 has been set for the March Banquet. Although the specific details have not been worked out, a location for the banquet is to be voted on at the next meeting. As a closing note, President Sandy Kigel gratefully accepted the resignation of John Parker as Secretary and acknowledged his replacement by Michelle Miller.

Sigma Chi holds 'White Rose' at Daytona Hilton

By Ted Sandowal
Sigma Chi Chapter Editor

Sigma Chi's "White Rose," the Fraternity's Formal Dinner and Dance, was held at the Hilton in Daytona Beach Shores. The highlights of the White Rose is the inauguration of the new Sweetheart who is a Little Sigma woman from past experience has been very helpful and brought prestige and honor to the name of Sigma Chi.

This year we are happy and honored to have Kris Davis, as our new "Sweetheart of Sigma Chi."

Prior to the ceremony, the Little Sisters pledging to become part of the Fraternity's Little Sigma Program, completed all their tasks and were inducted as honorary Little Sigmas. The White Rose is held also in their

honor for recognizing their support and effort into the Fraternity.

The ETA-IOTA Chapter wish to congratulate Kris Davis as our new Sweetheart, and the following fifteen ladies as our newest addition of Little Sigmas: Holly Althouse, Sheri Anderson, Mary Baker, Leszly Cooper, Anita Cozart, Sharon Hester, Michele Kaley, Betty Loring, Monique Markovics, Susan Mynofos, Yvonne Metts, Kassi Rayburn, Beth Seaman, Jeanie Ulm, and Beth Yerkes.

The ALPHA-IOTA Pledge Class have now passed their second review as well as all their required projects. These men are now that much closer and can almost feel the bond of our brotherhood, a bond that can never be broken, but only strengthened by the addition of

newly initiated brothers. Our last social party we had a grand old time with a Boxy and Bow Tie party. We wish to thank the KAPPA ALPHA THETA

Sorority. We would like to wish everyone a very joyous, but most of all, a very safe Christmas Holiday.

AFROTC Dining Out caps off trimester for cadets

By C/Capt Mike Hickey
AFROTC Correspondent

Last Saturday's Pass in Review Ceremony and Dining-out conclude this trimester's cadet activities. Aside from marking the end of the fall tri, these two events serve as a transition to the spring tri by formally changing the command of the cadet corps.

During the last week the cadets were preparing for the trimester's biggest event: The GMC's were briefed on Dining-out protocol and practical drill and ceremonies for Pass in Review which took place at Memorial Stadium. The Dining-out was held at Holiday Inn Surf-

side in Ormond Beach. The cadets, cadets, and their guests were honored to have Brigadier General Richard A. Ingram.

The Dining-out ceremony was the last cadet function for two graduating seniors, Cadet Wing Commander John Holmberg and AF 400 advisor Josh Fowler. The entire corp wishes them well in their future training. Congratulations for a job well done to the Cadets of the Month for November: Group I - Peter Wilezynski, Group II, Ken Vineberg, Group III, Donald Zindorf, Group IV, John Santandino, POC, Tom Ohland and Special Divisions, David Wahoski.

AAS takes time to reflect on accomplishments

By AAS 1LT DAVID A. BRESCIA

With the end of the trimester finally here, the members of the Arnold Air Society can look back at an impressive list of accomplishments, including fund raisers, social functions and service projects. However, we still have two important functions coming up this weekend. On Saturday we have our pledge initiation and we will be conducting a candlelight vigil in memory of all POWs and MIAs on Sunday evening. Anyone interested in attending this vigil is invited to contact any AAS member for details.

At the present time, all of the pledges have passed the National Pledge test, and six of them have passed their formal interviews.

The pledges who would like to complete the entire pledge program will be formally initiated into the society at our pledge initiation. Banquet '84 will be held at Marko's Heritage Inn Restaurant. At the initiation the pledges are bestowed with the responsibility of membership and are awarded the coveted blue and gold shoulder cord which signifies an AAS member. Also, at this dinner we will be paying tribute to our graduating member, John Holmberg and wishing him the best as he embarks on a challenging and exciting Air Force career.

The members of the Gill Robb Wilson Squadron would like to wish everyone a very safe and enjoyable holiday season. See you next year.

notices

GRADUATING SENIORS!!!

Just a reminder...if a prospective employer requests an official transcript for a job interview, we must have a written request from you before that information can be released. Be sure to fill out a Transcript Request Form before leaving campus, for your convenience.

STUDENTS ANTICIPATING SPRING '85 GRADUATION

We suggest that you fill out your Graduation Application for a PRELIMINARY GRADUATION EVALUATION as soon as possible.

SUMMER '85 GRADUATION APPLICATIONS will be accepted at the end of this trimester.

FINANCIAL AID WORKSHOPS

Financial Aid will hold workshops in December and in January to guide students in applying for financial aid for the 1985-86 academic year. Our forms will be different next year so it would be to your benefit to attend. The dates and times are as follows:
Wednesday - December 5th 1-3 p.m. and 6-8 p.m.
Thursday - December 6th 9-11 a.m.
Wednesday - January 23rd 6-8 p.m.

PELL GRANTS

Congress recently signed new appropriations to raise maximum Pell grant levels for the 1985-86 academic year to \$2100.

SUMMER OR FALL 1985

CENTRAL INTELLIGENCE AGENCY, Washington, DC AE/CS - Duties will vary with assignment; 6 positions - 3 trimesters alternating. 2.75 GPA (usually select 3.0 or higher), late Sophomore or early Senior, no habitual drug use (experimentation in past won't necessarily rule you out), must pass polygraph, medical and psychological examinations, U.S. citizen. Salary based on percent of education completed. 0-19 percent - \$12,546/year, 20-39 percent - \$13,669/year, 40-59 percent - \$14,829/year, 60-79 percent - \$16,014/year, 80-100 percent - \$17,221/year, plus benefits; transportation to and from assignment.

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FAA WRITTEN EXAMS

Embry-Riddle Aeronautical University will administer FAA Pilot Written Examinations on the following dates:
December 4 and 11 - Tuesday, 0830 - Common Purpose Room, U.C.
December 14 - Friday, 0830 - H-110 and H-113, SRW Complex

Students intending to take an FAA Pilot Written Examination are required to sign up in office D-350 or call extension 1307 prior to examination day.

At the time of the examination, each student must present a receipt for pilot exam fee, validated by the Cadets' Office; a Written Authorization Form signed by an appropriate Aeronautical Science Division Ground Instructor, or the failed results of a previous FAA Written Examination and present a personal identification an Airman Certificate, driver's license, or other official document.

Explanation of application forms and procedures will be given at 0830. Immediately thereafter, testing will commence and unless prior arrangements have been made, late examinees will not be permitted to enter the examining area while testing is in progress.

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ODK announces new initiates

By Scott Cooper, President
Richard Smith, Treasurer

Omicron Delta Kappa, The National Leadership Honor Society, is proud to introduce its fall initiates to the public. Not only are there fourteen new student members, but four faculty members were also selected. The National Leadership Honor Society represents those students

and faculty who are of exemplary character and outstanding academic achievement in the campus atmosphere. Since the end of the trimester is rapidly approaching, we will be tapping our new members during the first week of the spring trimester. Look for these new members in one of your classes next trimester. We will be announcing their acceptance into O.D.K. and

presenting them with a certificate during their classes.

- Eric A. Anderson
- Mark L. Berry
- David C. Bizar
- Gustavo A. Carbone
- Dr. Tom Connolly
- Robert W. Denecke
- Joseph R. Elm
- Francesco C. Favazza
- James B. Frownfelter
- Dr. William Grams
- Fred M. Hagens
- Nestor-Alexander Henriquez Jr.
- Mr. Hoyt Maulden
- Mr. John Novy
- Carl S. Rolfe
- Andrew J. Schmidt
- Wayne Troy Smith
- Sergio A. Zamora

AXA to end trimester with spectacular X-mas party

By Steve Williams
V.P., Lambda Chi Alpha

Another great trimester at Embry-Riddle is coming to a close. It's even greater because it's one less to have to take before graduation. This time of year is when having twenty-eight brothers comes in real handy. By all working hard and helping each other the chances of doing well are almost guaranteed.

November 17, 1984 was marked as the largest initiation our chapter has ever had. Our brotherhood increased from 14 active to the present total of 29 with the initiation of Ken Barbet, Jim Butzerworth, Rob

Dunn, Jon Fornal, Dan Hittner, Steve Kullash, Dave Marler, Tim Murphy, Chris Potheum, Mike Jarnaki, John Schulte, Stash Siedlarczyk, John Traa, Bill Whiteide and Chris Wright. Congratulations and good luck guys.

Next week will be another of the Lambda Chi Alpha Christmas parties and then comes exams.

We hope everyone has a fine vacation and a Happy New Year. Next year will be the best ever for Lambda Chi Alpha now that they are larger and more involved than ever before. Watch for us and join the excitement!

ROA concludes fall activities with dinner

By C/Sgt Miroslav Lehky
ROA Historian

The Reserve Officers' Association, this week concluded its schedule of fall 1984 activities. This week's meeting included the taking of photos for the Phoenix, officer's reports and announcement of next trimesters schedule.

The spring trimester is shaping up to be a hectic one for the members of ROA. Our trimester will open with a membership drive and pizza meeting. In February we will again be parking cars for the races during speed weeks. March will include Aviation Awareness Day, the Ultimate Game versus Arnold Air Society, and the Inter-Service Olympics which is still being coordinated. Our trimester will conclude with a awards banquet.

ROA membership is open to all members of military precommissioning programs at Embry-Riddle. All interested in joining are invited to our meetings.

Running Club plans 5K run for spring trimester

By Rob Glasscock
Running Club Sec/Treas.

On Saturday, November 17, 200 runners competed in the Paul deBryan 30-kilometer road race. Ron N6wvski, Daytona Beach Track Club's race coordinator, in need of helping hands, turned to the E-RAU Running Club, and secured Tim Walker, Nick Sirizani, and Jeff Stern to man an aid station at the 10-kilometer mark.

At the station they handed out water, called out the racers' times

and offered moral support. The race competitors thank the threesome for a job well done.

The Running Club is finished for the fall trimester, however, several events are being planned for the spring trimester.

On top of the list is an on-campus 5-kilometer (3.1 miles) road race. This race will be open to everyone: members, non-members, students, faculty, and local residents. Also being planned is next trimester's membership party.

Riddle Riders plan roadrally

By Rick Fingers
Secretary - Motorcycle Club

The Riddle Riders were busy over the Thanksgiving break with the planning of the Road Rally. Some of the members ventured out on a weekend run which lead to Fort Lauderdale, Miami, and finally the Keys. The president again made a solo ride to

Raleigh, North Carolina. I would like to relay a message from the president, Chuck Lee, to all of those who were involved with formation of the E-RAU Motorcycle Club.

As I'm leaving this trimester, I would like to thank everyone for their help in organizing the club. In the future I hope that everyone pulls together for more club

events. Ride safe and live well.

The next meeting will be Thursday December 6 at 7:00 p.m. in room E-613. Elections will be held at this meeting. Also an end of the trimester party will be discussed. If you are interested in being a part of the club next trimester you should attend this meeting to vote.

FAA certifies Sperry system

PHOENIX—Sperry has announced FAA certification of its new SP-300 Digital Flight Control System (DFCS), designed for use on the Boeing 737-300 aircraft. The SP-300 includes such features as dual-similar processors for autoflight operations; integrated autopilot, flight director, altitude alert, Mach trim and speed trim functions; and a glareshield-mounted, liquid-crystal-display mode control panel. The SP-300 is all DC-powered to eliminate off-

lining due to the AC power fluctuations.


The Boeing 737-300 certification includes Category IIIA autoflight capability (50 ft. decision height), along with the standard features of independent Category II flight director approach computation. It also incorporates the technologically-advanced Sperry digital RD-800K horizontal situation indicator, which interfaces with the 737-300 Flight Management System (FMS).

The new flight control system is part of the Boeing-developed 737-300 FMS, joining the autoflight, flight mode annunciator, flight management computer and inertial reference subsystems. This comprehensive FMS package minimizes pilot workload, enhances performance and improves ease of maintenance over previous systems designs.

Boeing currently holds over 150 firm orders for the 737-300.

Roger J. Mulcahy


March 18, 1966 - December 3, 1984



Through his dedication and love for aviation, Roger Mulcahy came to Embry-Riddle Aeronautical University in the Summer of 1984 in search of a career. During this time, his enthusiasm about E-RAU led him to become a member of the E-RAU Precision Flight Demonstration Team and, in the Fall of 1984, he became an integral part of Alpha Eta Rho. By putting others before himself, Roger exemplified the true meaning of brotherhood.

His family, brothers, and friends will never forget his presence or the impact he had on them.

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NASA history: A firm commitment to the future

By Jim Burke
Avion Staff Reporter

Our country's manned space program began as a result of superpower competition between the Soviet Union and the United States. Congress, with the support of the people, offered billions of dollars to support the effort of beating the Russians to the moon.

After the historic flight of Apollo 11, support of the space program began to seriously diminish. The nation was fighting a losing battle in Vietnam and its priorities were shifting from the "High Frontier," to the more down to Earth needs of conservation and ecology. As a result, NASA found itself in the unusual position of fighting for funding.

In the late sixties, NASA began some studies of what would happen in the post-Apollo days. The most logical next step was to establish a permanent presence in Earth orbit. This space station could be used for scientific, industrial, and military purposes. The early plans called for a large station with a crew of anywhere between twelve and one hundred personnel.

As activity in space increased, the traffic between the Earth and a space station would naturally increase. It would not be practical to use the Apollo (or even Gemini) expendable launch system to make the many trips per year into orbit. Think of it this way: Would you want to use the financial and material resources necessary for building an automobile to make only one trip? Go to the store and back then throw the car away. Build another car, go to a movie and then go home and throw the car away. It doesn't sound very efficient.

The answer to the problem was to create some kind of reusable space vehicle that could shuttle supplies and manpower to and from the orbiting space station. This "space shuttle" would greatly reduce the cost of space travel and make access into space easier.

The ideas were there, but the money was not. If NASA was to maintain its presence in space after Apollo 17, scaled down plans would have to be made. The best way to save money was to use existing hardware whenever possible. The space activities that followed Apollo 17 were the results of this thinking.

The first order of business was constructing some kind of space station. Several proposals were made and the final version was chosen in 1969. The third stage of a Saturn 5 launch vehicle would be converted into a workshop that became known as Skylab.

days, the crew would return to Earth, splashing down in the ocean.

Skylab was ready for launch on May 14, 1973. Shortly after a perfect launch, just seconds after the Saturn 3 booster disappeared into a cloud bank, atmospheric pressure ripped loose the micro-meteoroid shield that was to have protected the workshop from particles of dust hurtling through space as well as from the heat of the sun.

The shield took with it one of the two solar array panels that would power Skylab in orbit. Telemetry, and a little speculating, showed that the station was in big trouble. The interior temperature was soaring to 173 degrees Fahrenheit, and the workshop was without half of its ability to power itself. There was no way the manned launch, scheduled for the next day, could go. NASA, with the support of the contractors responsible, scurried into meetings and conferences looking for a way to salvage the \$2.5 billion dollar program.

Late in May NASA felt it had an answer. The first crew would launch, dock with Skylab, and attempt to repair the laboratory. Charles Conrad, Paul Weitz, and Joseph Kerwin were the astronauts who would perform the first major repair-effort in space. On May 25 the astronaut launched on top of a Saturn IB heading for a new era in space activities.

Their work was apparent to them as soon as Skylab was in sight. One solar array panel was completely gone and the other was jammed, only partially open, by a piece of the shield. The events of the following few days could fill several pages of the Avion with the account of how three men armed with simple tools fixed a 100 ton space ship. Suffice it to say that Skylab was made habitable.

Although habitable, Skylab was far from entirely operational. Scheduling adjustments had to be made because of the amount of power available, and the first method of protecting the workshop from the heat and dust of space (an umbrella type of apparatus deployed through a scientific experiment port).

The first mission aboard Skylab lasted a little over 28 days. During that time in space the crew performed many experiments in three primary areas: Astronomy, including intensive studies of the sun, Earth resources, and medical studies concentrating on the ability of man to live and work in space. Most of the experiments were designed by NASA, and its scientific community, but some experiments were created by high school students as part of a

99 day mission saw many records set and broke including, the amount of time spent outside the workshop in EVA. Three EVAs were performed mostly to retrieve exposed film canisters from the Apollo Telescope Mount (ATM).

The ATM, originally conceived as a part of Project Apollo, was a telescope designed specifically for the observation of the sun. It had



Jack Louasma files a prototype of the Manned Maneuvering Unit, precursor to the units used today, aboard Skylab.

the ability to create artificial eclipses for studying the sun's corona and photograph the sun in various spectrums. The ATM was powered by four solar panels that gave Skylab the look of having a windmill at the front of the space station.

The first EVA of Skylab 3 included the deployment of a sunshade that was installed over the parasol type shield installed on Skylab 2. This new shield was attached outside the cabin and was supported by two long poles connected from the rear of the station to the ATM. The EVA lasted six and a half hours and set a new space walking record.

Early in the mission the crew had a slight scare. Two of the four reaction control system (RCS) clusters that steer the CSM in orbit developed leaks and failed. When the problem first appeared it was potentially serious enough that NASA ordered the Skylab rescue flight to begin immediate preparations for launch. This involved getting a Saturn IB checked out and mated to an adapted Command Module that could hold up to five men. As these procedures were set in motion, it was quickly tested and determined that the two remaining RCS clusters could steer the CSM for re-entry. The rescue flight was scrubbed.

Bean, Louasma, and Garriot also had some serious trouble with motion sickness during the first few days. Sleeping off in the CM seemed to be the answer but ground control worried that the crew would be unable to complete a successful mission. All three Skylab crews had a sort of "ad lib" schedule that could adjust to the needs of the crew. With the crew sick they wouldn't want to do much.

To prove the ground wrong, the crew of Skylab 3 accomplished more than anyone could have hoped for. With 26 Earth resource experiments planned, 39 were accomplished. With 206 hours of solar viewing scheduled, 397 were logged (including the observation of two major solar flares). Medical experiments were completed, and the first orbital testing (inside the workshop) of the manned maneuvering unit was performed.

Skylab 3 splashed down on September 25, 1973 near the USS New Orleans 225 miles from San Diego. With the success of the first two missions, the third and last visit to Skylab was extended in duration from 56 days to 84. Gerald Carr, William Pogue, and Ed Gibson made up the crew of Skylab 4. They were launched November 16, 1973 to complete the last visit to Skylab. Their mission was the longest and repeated much of what the two earlier flights had accomplished. They traveled 34.5 million miles in 1214 orbits of the Earth.

Skylab 4 was given the oppor-

tunity to witness what had been billed as the Christmas spectacular of 1973. Much earlier in the year, Dr. Leonid Kobozev discovered that a new comet was heading into our solar system. It would make its closest approach late in the year around Christmas. From the early calculations, astronomers predicted that Comet Kohoutek would become the brightest ob-

ject in the sky seen by man with the exception of the sun and maybe the moon. Comet Kohoutek tipped out to be the Christmas disappointment of 1973, but the crew of Skylab 4 was able to see the comet the day after Kohoutek made its closest approach to the sun on December 28. During a three and a half hour EVA, Carr and Gibson observed and photographed the comet while it disappeared across the horizon.

As the mission neared its end, the crew prepared the workshop for one more visit. At that time none of us knew anyone (or anything someone suggested) would visit the station again. A "bag of goodies" was prepared and left in the multiple docking adapter. The bag included samples of food, film, clothing, electrical wiring, flight plans, and other souvenirs from the workshop.

Before undocking for the last time, the SLM's engine kicked Skylab into a higher orbit, that would allow the space station to remain in orbit for at least ten more years. Carr, Gibson, and Pogue returned to Earth on February 8, 1974. Project Skylab was over.

The story of Skylab actually ended five years later. Increased solar activity caused Skylab's orbit to decay sooner than anticipated. With the world watching and preparing for catastrophe, the 100 ton space ship entered the atmosphere on July 11, 1979. Debris from the world's first space station was scattered throughout portions of the ocean and Australia.

The space program began as a competition with the Soviet Union. In May of 1972, the two superpowers agreed to develop some cooperation in space. The Apollo-Soyuz Test Project (ASTP) was the result. ASTP called for the launching of an Apollo CSM as well as a Soyuz spacecraft, the two vehicles would then rendezvous and dock. Over the next few days, astronauts and cosmonauts would exchange places in the space ships and visit one another.

At the heart of the program was the idea that as the two nations increased their activities in space, the possibility of need for a dramatic space rescue could become necessary. The two countries could find it beneficial for their programs if the groundwork for cooperation was laid.

The crew for the endeavor was Thomas Stafford, Vance Brand, and Deke Slayton in the Apollo, and Valery Kubasov and Aleksey Leonov manned the Soyuz. Slayton was one of the original seven Mercury astronauts who was scheduled to fly after John Glenn's flight in 1962. Doctors discovered an irregular heartbeat and grounded him. Now returned to flight status years later, Slayton was at

last to go into space as the Docking Module pilot for ASTP.

Another notable crew member participating in the ASTP was the Russian commander Leonov. He was the first man in the world to perform an EVA and "walk" outside the cabin in space in 1965.

Some new hardware was created for this flight because of the different atmospheres used aboard each spaceship. Apollo used pure oxygen while Soyuz used a mixture of oxygen and nitrogen. The crew would have to spend time gradually adjusting to the different pressure and atmosphere before visiting each spaceship. The Docking Module (DM) was created as an airlock for this purpose as well as to facilitate the actual docking of the two spacecraft which used radically different designs.

The joint mission occurred precisely as advertised on July 15, 1975. The world saw for the first time live television coverage of the Russian launch. That was followed a few hours later with the last Saturn IB launch from pad 39 at the Kennedy Space Center. Twenty-nine orbits later the DM was nudged against the Soyuz spacecraft and docking was achieved.

What followed in the mission was more a big public relations stunt than a real space flight mission. A few experiments were conducted during the docked and undocked phases, but the highlight of the mission was the famous "Handshake in Space" shown live on TV. The Russians and Americans played musical space ships for a couple of days, signed some documents, and spoke with the leaders of both countries.

On July 21, the Soyuz spacecraft re-entered and touch-

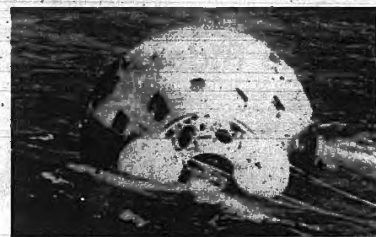
ed as it geared up for the second phase of the original space station-space shuttle thinking. The Shuttle was nearing completion, and although it had a few developmental delays, it promised to be an exciting new form of space transportation.

The first shuttle orbiter, Enterprise, was employed for crucial approach and landing tests at Edwards Air Force Base in California. In 1977 the test program was undertaken to determine the ability of the orbiter to fly in the atmosphere and land like a conventional airplane.

The test program was cautious. Before being flown five, Enterprise was carried captive eight times to altitudes of 25,000 feet to check performance, stability, control, and safety of the two-aircraft combination. In three captive flights, two NASA astronauts aboard Enterprise helped verify the most favorable separation techniques.

Five free flights of the Enterprise, were flown in which the orbiter was released and successfully flown to a dead stick landing on the dry lake bed. Astronauts chosen for the tests included Fred Haise, Joe Engle, Gordon Fullerton, and Richard Truly.

The first Shuttle flight happened in 1981 with STS-1 on April 12. John Young and Robert Crippen were the astronauts. The shuttle program has seen many advances since then. The shuttle flights to date have shown some of the capabilities of the Space Transportation System. Placing satellites into orbit, retrieving malfunctioning satellites, creating new manufacturing techniques, and making space more accessible to everyone are just a few of the abilities demonstrated by the Shuttle since STS-1.



The last Apollo capsule splashed down, completing the ASTP mission, and marking the end of the Apollo era.

ed down, again on live TV, in the Soviet homeland. The Apollo CSM continued on for four more days conducting a few experiments on Earth resources and astronomy. The return of the Apollo CM was to be the last US manned spacecraft returned by splashing down, and it was almost the end of Stafford, Slayton, and Brand.

Upon re-entering the atmosphere, the CM was supposed to automatically turn its RCS thrusters off and secure the fuel system. The CM's vents would then open allowing fresh air to circulate and keep the crew somewhat cool. For the ASTP mission, all of this was done manually. Inadvertently, the RCS was not secured, and when the vents were opened, toxic gases entered the spacecraft affecting the crew.

All three men started to lose consciousness with Brand going completely under. The very dangerous situation was not helped when the CM splashed down and went into the Stable 2 position, nose down. Stafford inflated the bags at the top of the CM which turned the CM upright. The hatch was quickly opened and the astronauts were apparently OK. It was revealed later that the crew went under a few seconds earlier, they would have not been able to release the parachutes. Of all of the manned flights, it was the last one which almost ended the worst.

The space program took time



The Skylab space station in Earth orbit. Note the missing solar panel on the right. The Skylab 1 crew made numerous attempts to repair the damage.

Skylab would be launched on a special two stage version of the Saturn 5 into Earth orbit. A day later three astronauts would launch aboard a Saturn IB to rendezvous and dock with the orbiting laboratory. Three separate crews would visit the workshop. After a stay of either 28 or 56

NASA student involvement program. (This was the forerunner of the Shuttle's Get Away Special program.) The activities in these areas continued throughout the Skylab program.

Skylab 3 was launched on July 28, 1973, with Alan Bean, Jack Louasma, and Owen Garriot. This

What It Is?



By Kelly A. Shortt
Avion Sports Editor

E-RAU lifeguards know the meaning of cold

This NOAA weather radio, Operated by the National Weather Service in Daytona Beach, Florida. A trough of low pressure is currently moving through the Florida panhandle. Associated with the trough is a cold front moving east north east. Currently the front extends north to Columbus, Georgia and south into the Gulf of Mexico. The system is expected to move into the Daytona Beach area...

As the winter months of the year settle in, we will continue to hear more about how cold it's going to be. There is quite a difference between northern and southern winter air. Most of the students and faculty that have endured winters up north and herein Daytona know the difference, the major difference being that the northern air does not have 70-90 percent humidity associated with it.

Have you ever experienced prolonged exposure to cold weather? Like four or more hours? At night? For those that have, know exactly what cold air is all about.

There is a small group of student employees here at E-RAU that have experienced inclement winter air. Last year during the latter part of the Fall 1983 and over the Christmas break, E-RAU's corps of lifeguards endured such weather. Their shifts ran to 10 p.m., some of them worked double shifts to make a little extra cash.

Well, so what. Good for you, might say. What the general population of this university may not know is that the E-RAU lifeguards were exposed needlessly to inclement weather. I assure you nobody was using the outdoor swimming pool during this time. Not even Chilly Willy the penguin would have been in the pool.

During this period the lifeguards did not perform a job as their title suggests, rather they were custodians of racquetball reservations and weight-room monitors. The fact that they were performing tasks that did not deal with lifeguarding does not bother me. In fact I'm glad to see that the E-RAU Recreation Department can provide employment for the lifeguards during the off-season.

Although at the same time I have to blast the Rec. Dept. for providing a terrible working environment. The student employees that worked at the pool last winter practically had no shelter from the weather. The wooden shack that they worked out of had no heat, poor lighting and the phone worked intermittently. There were times the lifeguards had to endure cold wet stormy weather.

In an attempt to shelter themselves from the high velocity cold rainy winds, they would place floor mats in the windows and around the walls. This action did help, yet the weather would still slip through the staggered wooden walls of the shack.

These working conditions are totally unacceptable and should not be tolerated. I suggest that since they are employees of the Rec. Dept. that they should work out of that office. Especially during the winter and inclement weather. If for some reason that cannot be arranged, then the shack should be upgraded to withstand the elements. With a heater! Better yet, since Aeronautilus is in operation, let the lifeguards work out there.

Alabama Motor Speedway announces schedule for 1985

Alabama Motor Speedway

TALLADEGA, AL - Stock car racing purists are going to love the 1985 schedule at Alabama International Motor Speedway, because that is the only kind of event that will be run next year at Talladega.

In announcing the 1985 slate, track General Manager Don Naman said that, for the first time since the 2.66-mile superspeedway opened in 1969, all events will be stock cars.

"In years past, we have always

had other kind of events such as sports cars, motorcycles or karts, but 1985 will be strictly stock cars," concluded Naman.

"They are, far and away, our most popular events, and we want to give the fans what they like to see," said Naman. "We'll have two races for the late model stock cars of the Automobile Racing Club of America (ARCA) Talladega Super Car Series, one race in the immensely popular International Race of Champions

See ALABAMA page 10

Tampa Bay signs to forwards

Tampa Bay Thrillers

TAMPA, FLA. - The Tampa Bay Thrillers have announced the signings of forwards Cliff Pruitt and Brian Martin.

Pruitt, a product of UCLA and the University of Alabama at Birmingham, is 6'7", 190 pounds. A high school All-American at Los Angeles' Verbum Dei, Pruitt was

the Indiana Pacers' 6th round pick in the 1983 NBA draft. Pruitt began his collegiate career at UCLA where he was Co-winner as a sophomore of the Bruin Bench Award as the most improved player, both physically and in attitude.

In his senior, and only, year as

See THRILLER, page 10

Lacrosse club officially chartered

By Steve Hallock
President - Lacrosse Club

The Lacrosse Club of E-RAU became officially chartered on Tuesday November 13 as the club constitution was reviewed and voted favorably upon by the S.G.A. Representatives.

Team jerseys have been ordered and equipment for those interested

in obtaining their own is now available at Starlite Sporting Goods on Mason.

The club has met several times on the playing field and the potential for a highly competitive team already exists as there are a lot of experienced players here on campus. However, the club would again like to stress that anyone interested in learning the sport, to meet with us as we also have many who are

Daytona International is a magnet

By Kelly A. Shortt

Your after year motorsports enthusiasts have flocked to Daytona International Speedway to observe racing at it's best.

Time and again these folks sit in the stands or walk through the infield area to absorb the action.

Some come to Daytona to watch the stock cars of NASCAR compete in the annual Daytona 500 or Firecracker 400. Others would rather watch the various motorcycle events such as the Pro-Am or Supercross. Yet some come to see the GT road races. No matter what motorsport is of interest to you it can be found in Daytona Beach.

For days at a time the roar of engines echo throughout the area. Sometimes these racing machines can be heard throughout the night. Residents that are within a few miles of the track have grown accustomed to the steady day barrage of noise from these speeding hunks of metal.

Like the thousands who travel from points across the country and some from around the world,

I too get a natural high watching man put his machine to the test.

This aura that entraps us is unescapable. You don't even have to be at the track itself. Just the sound that is emitted is enough. Once these sounds have reached you are hooked.

During race week the Speedway becomes a magnet. Once this magnet has drawn you past it's gates your mind runs rampant. The smell of exhaust, the engines roaring and the break-neck speed at which these vehicles attain are enough to put you in a euphoric state.

In a couple of months the cycle of events will start again at the Speedway. On February 2, 1985 this great magnet known as Daytona International Speedway will again start to attract us.

Upcoming Events

Feb 2	SunFest 24
Feb 9	ARCA 200
Feb 16	Goody's 300
Feb 17	Daytona 500
Mar 10	Daytona 200
Jul 4	Firecracker 400

Presbyterian slips away from Hatters

By Kelly A. Shortt

DELAND, FL - The Stetson University men's basketball team had to accept a tough loss at home recently. The Hatters hosted Presbyterian College who came into Stetson's Edmunds Center Wednesday, November 29, with a 5-0 record. The Blue Hose defeated Stetson 66-43.

Stetson started their hot hands: Jay Daniels-forward, Gary Coachman-forward, Jorge Fernandez-guard, Tim Shuler-guard and center Kodacy Williams.

Jay Daniels, a 6'6" 205 pound junior from West Palm Beach, FL, came into the game as the Hatters leader in rebounds (11) and scoring (25). Presbyterian held him to seven points and four rebounds.

Daytona Beach native Rodney Williams showed the Blue Hose he too had a hot hand. The 6'7" center pumped in five points and scooped up six rebounds in the first half. The 1981 graduate from Sealbreeze High School recently transferred to Stetson after spending two years at the University of Florida.



Driver Kikos Fonesca of Costa Rica, sits in dispair after his TACA Airlines Porsche Carrera spun into the guard rail at Daytona International Speedway.

Guard and co-captain Jorge Fernandez known as the Hatters best offensive player, walked into Edmunds Center as the number two team scorer (24). Last season he played in 21 games. The 6'11" senior from Miami piled up 43 rebounds and had 30 total points. Jorge pumped in ten points against the blue hose.

Native Floridian Tim Shuler hails from Titusville. The 6'4" senior had 3 assists, 2 steals and

10 points against Presbyterian.

Stetson coach Glenn Wilkes started his hottest prospect in sophomore Gary Coachman. The 6'7" Hilliard, Florida native racked up a team high 14 points and 8 rebounds against the Blue Hose that night.

Presbyterian's big threat was off the bench. Troy Tunmond came in for 19 minutes and dominated scoring with 21 points. Stetson was unable to contain the 6'8" senior from Jacksonville, Florida.

Among the small contingent of E-RAU students that attended the game was Embury-Riddle SGA vice-president Matt Maranto. "The game moved rather slowly, but picked up at the end," Maranto said after the game. "I really enjoyed the game even though the Hatters lost," Maranto added.

The Hatters host Mercer University Tuesday night, December 4 at 7:30 p.m. Tickets can be obtained at the E-RAU Bookstore or at the gate.

Avion Sports Football Pool for 1984

By Kelly A. Shortt

As the Fall 1984 trimester comes to a close, so does the Avion Sports Football Pool. I would like to extend my appreciation to Keith's Subs on Beville Road for sponsoring the pool. Also a hardy thank you to all of those who participated in the pools. Good luck next time around. The following are the winners of this tri's pool.

Sean E. Barry
Michael B. Bernstein
Raymond C. Fletcher
Kent P. Johnson
Daglas J. Monahan
Chris E. Svendsen
Friedrick T. Van Brunt
John F. White

* Three time winner.

Aeronautical Studies
Aviation Technology
Aeronautical Science
Aeronautical Science
Aeronautical Science
Aviation Management
Aeronautical Science
Aeronautical Science

Super-Vee driver Dave Estep gives insight

By Tim Van Milligan
Avion Staff Reporter

"I'm bitter about the way you get to Indianapolis. You aren't judged on your ability to drive, you're judged on your bank balance, and how much you can produce." This was what Super-Vee racing car driver Dave Estep of South Holland, Illinois said in an interview about what it takes to become a successful racecar driver.

According to Estep, three years after the Super-Vee series was started, \$10,000 could get you a good competitive car, now it takes over \$200,000 to keep a car in the 12 race series. With this amount of money needed to race competitively, sponsors of the racers want to make sure that

they receive a return on their investment, so they look for those drivers, that can give them the most for their money.

Dave Estep feels that in order to find a sponsor anymore, your father had to have been a three time Indianapolis driver. He went on to tell what Al Unser Jr. said on the Indiana two years ago at Indianapolis: "If my name wasn't Unser, I wouldn't have chance at Indy, I'd be starving like everyone else."

The Super-Vee race gets its name from Volkswagen, who sponsors each race, giving a total purse of \$20,000 for each race, of which \$5,000 goes to the winner. The cars that are used in the races use "quite a bit" of Volkswagen parts, such as the front brakes and the front hubs, which are out of a Volkswagen Beetle.

The engine in Dave Estep's car is a standard VW Scirocco block, which is capable of attaining 190 hp. Engines in Indy cars

are capable of attaining 750 hp. The Super-Vee races are "the sleeping stone to Indy car racing," with each race being a 100 lap sprint, in which the cars reach speeds of up to 160 miles per hour.

The races are held on the same days as the Indy car run, except for the Indianapolis 500, the Michigan 500, and the Pocono 500 races. This gives the Super-Vee racers the same coverage as the Indy races.



Boch-Volkswagen Championship Racers dive for the first turn at the Long Beach Grand Prix.

Wilder: Mr All-Purpose

From the Tampa Bay Buccaneers

In the increasingly specialized NFL, the title of all-purpose running back is a rarer and rarer accolade.

"With his long term production as a rusher, receiver and blocker - he's the best blocker his size we play. I've always thought Payton (Walter of the Chicago Bears) was the best all-around running back in football," says Buc coach John McKay. "There may be others who do specific things better but no one puts the whole package together like Payton. But after him, I don't see anyone at this time better all around than Wilder."

Wilder has been an important part of the Buc offense since his second round draft selection in 1981 out of Missouri. A stalwart at fullback until midway through last season, he made his mark with crunching blocking and outstanding pass receiving. Then in October of last season, he moved to tailback for four games before a rib injury ended his season.

Although statistics speak volumes on his ability, the most eloquent testimony on what he has meant to the Buccaneer offense comes from his

teammates.

"He gives us confidence as a line," says center Steve Wilson. "You can block a play for three or four yards and he'll get six or seven with his strength and extra effort. He's improving, reading blocks better with experience and he has a feel for when to cut back and find the seam."

"He's a lot different than any back I've played with," says former Steeler Steve Courson. "He has a unique ability for a big man to catch the ball. He's the most bruising runner I've been around. He's a slashing runner who goes north-south, never east-west. You know he'll hit the hole hard, there won't be any monkeying around."

"He's a great person, a great leader," says tackle Gene Sanders. "He makes you want to put your head gear on and hit someone. When you have a horse, you want to push it along."

"His season has given us some sights and some goals," says guard Sean Farrell. "As a line we would like nothing better than to see him earn a trip to the Pro Bowl. Personally, I'm amazed by his ability to continually take punishment. I don't think he gets tired."

"He has great intensity," says fullback Adger Armstrong. "He works harder than any back I've been around. He always seems to be in tune. Bum Phillips would tell us when I was with Houston, that anyone can become successful but what separates the great athletes from the good is the ability to stay successful. I think James is handling his success perfectly. He's still the

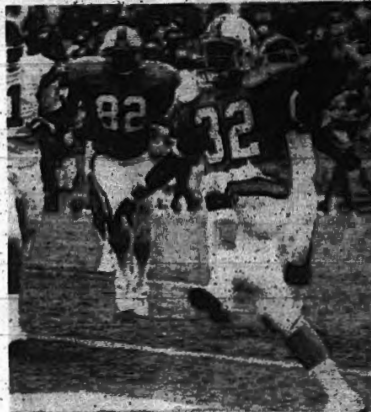


Photo by Kelly A. Borg

Buccaneer James Wilder (32) high steps into the endzone: same old guy."

Quarterback Steve DeBerg sums it up by saying, "He's the best running back I've ever been associated with."

Wilder, a completely team-oriented player, politely refuses to join this chorus in self-praise. "It's the offensive line," he

demurs. "They're the biggest part of it. I'm behind these guys all the way. People ask about carrying all the time but actually it seems to be getting easier. The line is getting me in the secondary more and I'm not getting hit by as many big defensive linemen. These guys are protecting me."

ALABAMA

(Continued from page 9)

IROC) series end, of course, our two main events, the Winston 500 in May and the Talladega 500 in July."

The 2nd Annual Permatex 500 (kilometer) race on Saturday, May 4th, will be the first event on the 1985 schedule, followed by the 16th Annual Winston 500 on Sunday, May 5th.

On July 27th, AIMS will host Super Saturday, featuring the ARCA Talladega 200 and the 100-mile IROC race showcasing the top drivers from racing series around the world. And the grand finale for 1985 will be the unpredictable Talladega 500 on Sunday, July 28th.

The combined purses for these five events will be well over \$1 million, and at least three of the five are slated for national television.

In 1984, Alabama's own Davey Allison and Red Farmer won the Permatex 500 and ARCA 200, respectively, while Cale Yarborough survived a record-75 lead change to win the Winston 500. Dale Earnhardt won a 10-car dash to the finish line to take the checkered flag in the Talladega 500, and Darrell Waltrip barely edged Yarborough in the IROC clash.

Five invited to Tampa Bay Thrillers' training camp

From the Tampa Bay Thrillers

TAMPA, FLA. — Five participants in the Tampa Bay Thrillers' recent free agent tryout camp have been invited to the team's training camp, which opens Monday, November 12, 1984.

Three forwards, Paul Anderson, Darryl Mitchell and Peter Morrison, are among those asked back for a second look. Anderson, 6'5" and 215 pounds, is a Dartmouth graduate. He was

first team All-Ivy, team MVP and A.P. Honorable Mention All-American in both the 1982-83 and 1983-84 seasons. As a senior, Anderson averaged 17.0 points and 7.1 rebounds per game.

Mitchell is a graduate of Tampa's King High School, and played collegiately at Florida College and Armstrong State. In his senior year at Armstrong State, the 6'6", 210 pound Mitchell averaged 24.2 points per game, while putting in an average 11 rebounds per center.

A Bronx, New York native, Morrison split his college career between Western Wyoming College and Eckerd College. At Western Wyoming, the 6'7" center/forward averaged 11 points and 8.1 rebounds per game and was named to the Spartan Classic All-Tournament team. In his senior year at Eckerd, Morrison was team captain and averaged 11 points and 7.8 rebounds per game.

Guards Ron Harvin and Sam Winley round out the free agent group. Harvin, of Tampa, at-

tended Hillsborough High School and Hillsborough Community College before transferring to the University of South Florida, where he played for coach Lee Rose. Since graduation from USF, Harvin has been an assistant coach at Tampa's King High School.

Winley is a product of Marshall University and now resides in Tampa. The 6'4" guard was a Honorable Mention All-American as a senior, and is noted for his defensive play.

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Stetson Hatter Basketball

Embry-Riddle discount tickets available at the E-RAU Bookstore.

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Thursday, Dec. 20	U of Tennessee-Martín
Saturday, Jan. 5	St. Joseph's (Maine)
Wednesday, Jan. 9	Brown University
Thursday, Jan. 24	Armstrong State
Monday, Feb. 11	Bethune-Cookman

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Stingers ink three players

Sarasota Stingers

The most outstanding player in the Sarasota Stingers rookie free agent camp in September, Rodney Jones signed with the Stingers last week along with two other outstanding prospects: Dion Brown and Victor Coleman.

Rodney Jones, a 6'6", 180 pound forward who played his college ball at Hawaii and averaged 13.8 P.P.G. Jones caught coach Bobby Bowman's eye at the Atlanta Hawks free agent camp this summer.

Victor Coleman, a 6'5", 190 pound guard scored 1,800 career points at Northern Missouri State University and was the tenth round draft choice of the Kansas City Kings. Coleman was an honorable mention All-American and a three time All-Conference player who has averaged 18 P.P.G.

Dion Brown, 6'7", 200 pound All-time rebounder at Southern Louisiana had a 9.6 R.P.P.G. his senior season has led the Cajuns to the final four in the N.I.T. He had a 13.9 P.P.G. and 1,412 career points and was drafted in the sixth round by the San Antonio Spurs.

THRILLER (Continued from page 9)

a transfer to UAB, Pruitt led the team in average points per game with 16.4, per game rebounds with 5.8, an 80.8 free throw

percentage and 31 minutes per game. His 72 assists and 28 steals on the season ranked him third on the Blazer's squad, while he hit at a .471 pace from the field.

During the 1983-84 season, Pruitt played in Europe, where he 30 points per game average led his Swiss team.

A Ft. Smith, Arkansas native, Brian Martin stands 6'9" and 212 pounds, and was the Pacers' ninth round choice in the 1984 draft.

As a college freshman, Martin played at Hutchinson Junior College before transferring to the University of Kansas under head coach Larry Brown. At Kansas, he was the sixth man on the squad, serving as back-up center, and was a key ingredient in the Jayhawks' drive to a 22-win season and NCAA tournament berth in 1984.

Over the course of his Kansas career, Martin played in 84 games, blocked 83 shots, including a team-second 32 as a senior, and averaged 4.2 points scored and 3.5 rebounds per game. He is also one of the few players in the game today who can legitimately claim to have blocked a shot by superstar Wayman Tisdale.

AVION

The position of Sports Editor is available. Also anyone interested in all facets of sports-journalism, such as reporting or photography contact the Avion Newspaper.



Field of pacers head for the finish line as they move down the home stretch after making two laps on the half mile



track (above). Jockey warms his horse up prior to race at Louisville Downs in Louisville, Kentucky.

Avion Photo by Scott Featherstone

Holbert and Bell take 3 Hour Race

By Brian Nicklas
Avion Staff Reporter

In the first Eastern Airlines 3 Hour Camel GT held at Daytona International Speedway, the Porsche 962 of Holbert Racing took top honors.



Avion Photo by Scott Featherstone

This car, number 14 in the colors of Lowenbrau Racing, completed 91 laps (323.96 mi) in just over 3 hours time. Drivers Al Holbert and Derek Bell took the checkered flag besting a 74 car field.

Holbert not only shared the winning honors, but also had a hand in the finish of the third place vehicle as well. This came about as Holbert replaced Bob Wollek in the Swap Shop Porsche. Due to taking an active part in the success of two vehicles, Holbert assured himself of getting points towards the Porsche Cup. As it was, it was thru his own car that he achieved this.

Al Holbert (left) and Derek Bell (right) along with crew celebrate in victory lane after win. They drove their Porsche 962 to victory in the Eastern 3 Hours of Daytona on Nov. 25.

Daytona 200 race to become part of Superbike Series at Daytona

Daytona Intl Speedway

The Daytona 200 motorcycle classic—the premier road racing event in the Camel Pro Series, will become a race in the rapidly-growing Superbike Series in 1985 at the Daytona International Speedway.

The announcement of the change to Superbikes from Formula One was made by John D. Riddle, general manager of the Daytona International Speedway.

The Daytona 200, sanctioned by the American Motorcyclist Association, is the world's richest motorcycle race with a purse of over \$100,000, including the Bell Superbike-bonus.

Scheduled for Sunday, March 10, the race now will be between motorcycles similar to those which fans ride on the road.

"Superbikes are the NASCAR

Grand National stock cars of motorcycle racing," said Riddle.

"The concepts are basically the same: be as 'stock' as possible while making enough changes to allow for safety as high, sustained speeds."

The new racing schedule for Cycle Week '85 will build to a climax on Friday, March 8, with a 100 mile race for the exotic Formula One machines and a pair of 30 mile races in the popular Battle of the Twins.

Saturday will remain the same: a 75 mile Formula II event and Supercross by Honda. The Daytona 200 AMA Camel Pro events winds up the action on Sunday.

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7-Eleven to sponsor 500

Daytona Intl Speedway

DAYTONA BEACH, FLA.—7-Eleven, the nation's largest chain of convenience stores, will sponsor the annual Daytona 500 qualifying races February 14 at the Daytona International Speedway.

The races will be known as the 7-Eleven Twin Qualifiers and will remain at 125 miles each. The purses have not been announced, but a raise from last year's record payoff of \$100,000 per event is anticipated.

The two races are held annually the Thursday before the Daytona 500 and a high finish is necessary for most drivers to

qualify for a place in the million dollar-plus 500. Only the first two positions are set prior to the 7-Eleven Twins, those coming from the Busch Pole Qualifying Day on February 9.

"It's exciting for us to be closely involved with the Daytona International Speedway, particularly during the annual Speed Weeks," said Frank McKeown, Vice President of Marketing for the Southland Corporation, parent company of 7-Eleven. "The races are always exciting and they're certainly significant."

John D. Riddle, general manager of the Daytona International Speedway, added,

"Southland is a quality company and we're proud to have them with us. The 7-Eleven Twins always draw a big crowd and are the starting point of our 'Final Four' days of Speed Weeks."

Among the competitors will be Kyle Petty in the 7-Eleven sponsored Ford Thunderbird. He will be making his first Winston Cup Grand National start for the Wood Brothers racing team of Stuart, Va., NASCAR's all-time super Speedway winners.

Cale Yarborough and Bobby Allison won last year's 7-Eleven Twins, and Yarborough went on to capture the Daytona 500.

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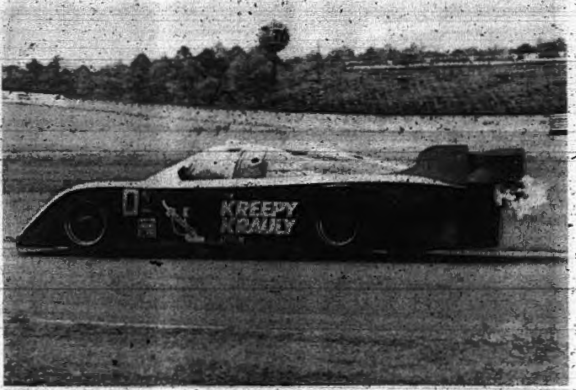
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Memories



Avion Photo by Rich Gray



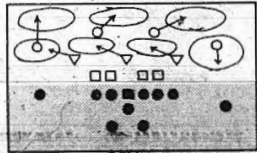
Avion Photo by Scott Featherstone

of

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ZONES
The most common pass defense these days is the zone. In a zone the defensive backs and linebackers each cover a prearranged area of the field. They stay in their zones alert to where the receivers go. Once the ball is thrown, they converge on the receiver. The New York Jets are one of the best at thrown-ball reaction, which makes their zones extremely difficult to beat. The three most common zones are the strong or rotating zone, the weak zone, and the double zone. In the strong zone, the defense divides into three deep

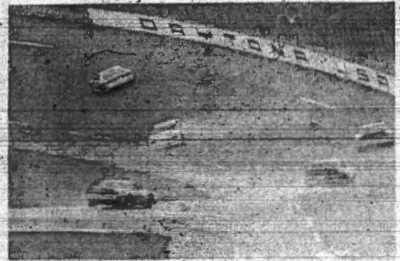
zones and four short zones. In a 4-3, the linebackers and one cornerback take the short zones, while the other cornerback and the safeties handle the deep zones. Because the linebackers head in one direction and the safeties in the other, the defense seems to rotate. A weak zone is just the opposite, with the rotation going counterclockwise. In a double zone, there are five short zones, manned by the linebackers and the cornerbacks, and two deep zones, occupied by the safeties. The illustration shows a strong zone, with the defense rotating clockwise.



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Avion Photo by Rich Gray



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The Aerospace Observer

By Jeff Guzzetti
Space Technology Editor

As we make our de-orbit burn into finals week to end another trimester, so ends the first mission of the Space Technology Desk. We feel that we have become a viable news section in the *Avion* and we hope our readers have enjoyed our past issues.

Looking back in retrospect, the Fall of 1984 boasted numerous activities in the field of space technology. While all of us did the school routine this trimester, we've seen three space shuttle missions (41-D, 41-G, and 51-A) that deployed a total of four payloads, several scientific pallets, and one ERBS satellite. We've witnessed the historic first spacewalk by a woman (Kathy Sullivan), watched in awe as two astronauts rescued two errant satellites, and heard the thunder of sonic booms from two KSC shuttle landings.

Aside from Space Shuttle events this trimester, we've lived through two satellite launches from Cape Canaveral, an Ariane launch from French Guiana, and the return of three cosmonauts from a record-setting space endurance mission.

Besides providing up-to-date coverage on these events (while trying to scoop *Aviation Week and Space Technology*), the Space Technology desk has presented informative feature stories on the efforts of the numerous private enterprises that are involved in the booming business of commercial launch services. We've interviewed Deke Slayton, one of the Original Seven astronauts who now heads up one of these enterprises. We've also provided features on Lifting Bodies, the A-12 spyplane, Vandenberg Air Force Base, state-of-the-art avionics, and many other space-related articles.

The success of the Space Technology section is due to the tireless efforts of students who work hard because of their enthusiasm for aerospace news. Special thanks goes out to *Avion* reporters Brian Nicklas, Pete Merlin, Tim Van Milligan, and Rob Dixon. Extra special thanks goes out to Pat McCarthy, a Computer Science student who's always willing to drive 60 miles down to Kennedy Space Center for shuttle news items.

Pat, by the way, will become the new Space Technology Editor for the upcoming trimester. His progress and competence in reporting the facts in the aerospace field have given me the confidence to turn over the reigns to his care. My services are required as News Editor, but I hope Pat will allow me to cover a launch or landing once in a while.

We, as students, have witnessed, and are continuing to witness, the massive exponential growth of space development. We should feel fortunate and excited to live in a time of such growth, and we hope you'll continue to turn to the *Avion* for the latest in space technology.



Mission 51-A crew post-flight press conference: Satellite snatching was 'as easy as pie'

By Pat McCarthy
Avion Staff Reporter

Shuttle mission 51-A was described by mission commander Frederick Hauck as being "as significant a mission since the Skylab repair," at a post-flight press conference last week.

The successful retrieval and return to earth of two errant communications satellites

Communications' controllers had worked "for several months to painstakingly lower the orbits of the two satellites to an altitude the shuttle could reach. Using the satellite's small hydrazine-fueled attitude control thrusters, the Hughes controllers slowed the satellites' spin rate to less than two RPM to prepare them for the docking attempt.

Hauck and Pilot David Walker

ready to cope with," said Allen. The astronauts had to switch to a contingency plan during the retrieval operations due to a problem with the Antenna Bridge Structure (ABS), an A-frame-like apparatus used to provide a grapple point for the RMS.

Allen and Gardner had worked out a "Plan B" during pre-flight training.

In actual use, "Plan B" entailed using one of the EVA astronauts as a support structure, "hooking man into A-frame" as NASA called it. One astronaut would hold the 1,200-pound satellite above the payload bay while the other worked at attaching the equipment used to secure the satellite to a pallet for return to earth.

While the combination of satellite and support equipment would weigh some 1,800 pounds on earth, Allen said "it could be readily moved in zero-G." Allen said he didn't have any problems moving the large mass around, Allen cautioned. "As long as you don't bite off more than you can chew and you don't over correct," Allen added, "People work in space the same as they work on the ground—they work best at fixing things."

He said that in zero-G, the

smaller things got, the more difficult they became to use. The work can be tiring "not due to the large mass, but because the pressure suits are hard to move" in the vacuum of space. "But it is not fatiguing... not uncomfortable to work in zero-G," he said.

The crew described some of the sensations they felt during their flight.

Gardner said during a slack period on one of his EVA's, he had a chance to watch the Earth roll by beneath him. "It was easy to notice the orbiter nearby... I felt all by myself out there... it was definitely a unique experience in my life."

Allen explained the MMU was a very easy device to fly using, "it looks like the 'Buck Rogers' device of my childhood - and it is."

When asked how the one-day delay of their launch affected him and whether he needed to get "psyched up" ahead for the next day's attempt, Hauck answered: "When you go up to the 185-foot level [of the launch tower] and realize you are only among 15-20 people standing next to this lying, breathing, venting monster there's no problem getting your adrenalin up!"



Dale Gardner files an MMU toward the Westar IV satellite prior to docking. Discovery's RMS awaits at right. Dr. Anna Fisher later used the RMS to grapple the satellite.

highlighted the fourteenth space shuttle flight.

Discovery's crew characterized their flight as "a fun mission to fly," according to Hauck. The crew also expressed pleasure with the performance of their equipment, the ease of working in "zero-g," and in the realism of their pre-flight training.

Mission Specialist Dale Gardner said "the MMU's [Manned Maneuvering Unit] performed flawlessly." The MMU's were used to capture and stabilize the slowly-spinning Palapa and Westar satellites prior to being grabbed by Discovery's Remote Manipulator System (RMS). Mission Specialist Dr. Anna Fisher controlled the RMS for both satellite retrievals.

The Hughes engineers did "a tremendous job... leaving the satellites in great shape to dock with," said Gardner. Hughes

described the orbiter as being very easy to fly during the rendezvous maneuvers and "proximity operations" [close-in to the satellites]. Hauck maneuvered the Discovery to within 35 feet of the slowly-spinning satellites before an MMU-equipped astronaut ventured out of the orbiter's payload bay to dock with the comsat.

Mission Specialist Dr. Joseph Allen said it was "remarkable to watch this 100-ton 'vessel' controlled inch-by-inch during the EVA [Extra-Vehicular Activity] operations." Walker said the proximity operations were "flowing just as we had simulated."

The entire crew voiced their agreement on the realistic nature of their pre-flight simulations. The training "emphasizes problems, and everything we encountered [during the EVA] fell within the set of things we were



Joe Allen (right) and Dale Gardner hang suspended above Discovery's crowded payload bay. The astronauts said later, "We kept looking back to make sure the [retrieved] satellites were still there. We were glad we actually pulled it off!"

NASA receives preliminary design proposals for space station

Kennedy Space Center

The National Aeronautics and Space Administration has received 13 proposals from U.S. industry for definition and preliminary design of a permanently manned Space Station to be operational in low-Earth orbit early in the 1990s.

The submissions are in response to a Request for Proposal (RFP) issued September 14, 1984. Deadline for submission was November 15, 1984. Other companies listed range from primary team members to subcontractors to advisors and are identified within the respective proposals. The order of listing has no significance with regard to a company's contribution to the respective proposal.

Work Package One: Marshall Space Flight Center, Huntsville, Alabama, definition and preliminary design of pressurized "common modules" with appropriate systems for use as laboratories, living areas and logistic transport; environmental control and propulsive systems; plan for equipping a module as a laboratory and additional ones as logistics modules; and plan accommodations for orbital maneuvering and orbital transfer vehicles.

Boeing; Teldyne Brown Engineering; General Electric; Vought; OAO; ThermoCote; Garrett; Hamilton Standard; Life Systems; Lockheed; Umpqua; Perkin-Elmer; Fairchild; Aerojet; Rocketdyne; Rocket Research; Eaton; Sundstrand; Westinghouse; Rockwell Autonetics; TRW; Computer Tech Associates; Hughes; Telephonics Camus.

General Dynamics; Grumman; Hamilton Standard; Life Systems; Ford Aerospace; TRW; Ball Aerospace; Computer Sciences; Otha C. Jean & Associates; Aerojet; Honeywell;

Center, Houston, on November 15, 1984. In each case the team leader is listed first.

Other companies listed range from primary team members to subcontractors to advisors and are identified within the respective proposals. The order of listing has no significance with regard to a company's contribution to the respective proposal.

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General Dynamics; Grumman; Hamilton Standard; Life Systems; Ford Aerospace; TRW; Ball Aerospace; Computer Sciences; Otha C. Jean & Associates; Aerojet; Honeywell;

RCA; Rocketdyne; SPAR Aerospace; Sperry; Telephonics;

Martin Marietta; McDonnell Douglas Technical Services; Hamilton Standard; Honeywell; Hughes; Hercules; Wyle Labs.

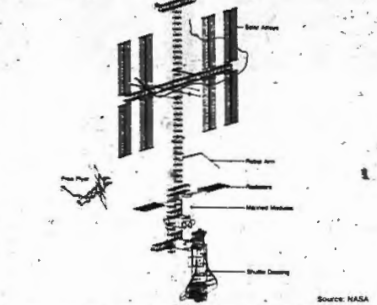
Work Package Two: Johnson Space Center, Houston, definition and preliminary design of the structural framework to which the various elements of the Space Station will be attached.

interface between the Space Station and the Space Shuttle; mechanisms such as the Remote Manipulator System; attitude control, thermal control, communications and data management systems; plan for equipping a module with sleeping quarters, yardroom and galley; and plan for extravehicular activity (EVA).

Lockheed - TRW; Bendix; Hughes.

McDonnell Douglas - IBM; Honeywell; RCA; Ball Aerospace; Computer Sciences; Design West; Communications and Data Systems Associates; Eagle Engineering; Essex; Fluor; Ford Aerospace and Communications; Hamilton Standard; ILC Space Systems; SPAR Aerospace; LTV Aerospace and Defense.

See PROPOSALS page 15



This computer-generated diagram shows the basic reference configuration that space station contractors will use.

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L-5 hosts award-winning simulation engineer

By Jeff Guzzetti and Jim Banke

Last Friday, November 30, Dr. Marvin Bunker, a consulting engineer employed locally at General Electric, made a rare speaking appearance at a dinner meeting hosted by the L-5 Aerospace Society.

Dr. Bunker has taught at Embury-Riddle and is a member of the Industrial Advisory Committee. In 1963, he was a winner of the Steinmetz Award, which is G.E.'s highest technical honor. Dr. Bunker donated the proceeds of that award to Embury-Riddle here in Daytona Beach and in Prescott, Ariz.

Dr. Bunker has worked in the Advanced Technologies Engineering area for General Electric since 1963. His current assignment includes research and consultation work with training simulators. This includes development of conceptual and mathematical areas, as well as hardware considerations. His assignment also involves computer generation of images from the data base to the display system.

Dr. Bunker's visual simulation developments include the basic organization of the calculator functions, the development of the hardware priority determination concepts and fading techniques

for fog and cloud simulation, algorithms for ellipsoidal feature simulation, translucent face simulation, and texture generation.

These techniques have been used to develop military flight and tank simulators. The same types of computer generated images have also been used to help create special effects for some of Hollywood's latest films.

After a short movie depicting the overall operations of General Electric, Dr. Bunker explained the historical development of flight simulation with the aid of a slide presentation. "It all started by a pilot named Ed Link in 1929," the engineer explained.

"Link claimed that he could certify a pilot for an eight-dollar, three-lesson program using the Link trainer and a couple hours of actual flight time."

Bunker went on to discuss that the Link trainer provided no real visual cues for the pilot trainee; but in the early 1930's, this development came into being. A system involving the guiding of a small camera across a scale model of ground terrain was used in order to project a visual simulation to the pilot looking out of the trainer cockpit.

Then, in the late fifties, the first crude systems for Computer Generated Images (CGI) were developed. Dr. Bunker explained

that these systems required computers that had to operate thousands of times faster than the "general" computers used at the time, and even these computers could only generate crude line drawings.

As time passed, the country geared up for the Apollo program and NASA needed simulators to train its astronauts. As a result, GE delivered the "NASA 1" simulator in 1964. Bunker explained that the simulator patterned the ground and sky with increased realism. The "NASA 2" simulator was then developed in 1967, and this was the first system to project solid objects in three dimensions.

As Dr. Bunker discussed further flight simulator developments, he mentioned simulators used for military pilot training. One such system, the 2F90, proved to the Navy that training in simulators increased pilot performance. "The 2F90

used a 64-bit chip back then...the chips being developed now contain 250,000 bits," Bunker added.

The GE engineer then explained recent developments in flight simulation that involve a concept called "texturing." He showed slides of ground terrain including trees and buildings that looked amazingly real. He also explained the capability of projecting shadows of these objects for increased realism.

After the slide presentation, a movie was shown that depicted the actual computer generated images from a simulator. One scene depicted a helicopter firing missiles at a tank that looked like a true-to-life, highly-detailed, three-dimensional "cartoon."

"It's been a real technical challenge to solve the problems of flight simulation," Bunker stated. Dr. Bunker holds a Ph.D. in Electrical Engineering from the University of Florida.



Avion photo by David Ledford

These aircraft, a C-47 (left) and a Rutan Gulluck, were on display this past weekend at the Spruce Creek Airshow. The Airshow also featured many homebuilt and assorted warbirds



'Christmas Carol' at Playhouse, December 7-16

Daytona Playhouse presents the Charles Dickens classic, "A CHRISTMAS CAROL," adapted by Lynn Stevens.

Performances are scheduled for December 7, 8, 9, 14, 15, 16. Christmas cookies and punch will be served following the opening night performance December 7th. Curtain is 8:00 p.m. for evening performances and 2:30 p.m. for Sunday matinees.

Ticket prices are: Adults \$3.50...Children (16 or under) \$1.50.

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Proposals (continued from page 14)

Ruckwell International; Grumman; Harris; Sperry; Intermetrics; SRI International.

Work Package Three: Goddard Space Flight Center, Greenbelt, Md., definition and preliminary design of the automated free-flying platforms and of provisions to service, maintain and repair the platforms and other free-flying spacecraft; provisions for instruments and payloads to be attached externally to the Space Station; and plan for equipping a module as a laboratory.

General Electric - TRW; Essex; Intergrated Systems Analysis; Perkin-Elmer; SPAR Aerospace; Teledyne Brown Engineering.

RCA - Lockheed; Ball Aerospace; Computer Sciences; Work Package Four: Lewis Research Center, Cleveland, definition and preliminary design of the electrical power generation, conditioning and storage systems.

Garrett - Acurex; Advance; University of Houston; ElectroSpace; Mechancial Technology;

Thermo Electric; LTV Aerospace and Defense; EBASCO Services; GA Technologies; Lockheed.

Rocketdyne - Sundstrand; Ford Aerospace and Communication; Harris; Lockheed; Spectralab; Acurex; Georgia Tech.

TRW - General Electric; Grumman; General Dynamics; Perkin-Elmer; United Technology; Mechanical

Technology; Life Systems.

In addition to the study of the permanently manned Space Station, the Request for Proposal also requires contractors to study how these elements of the Space Station would change were the station originally man-tended rather than permanently manned. Contractors also will be expected to pay particular attention to recommendations of the NASA Advanced Technology Advisory

Committee, which is identifying automation and robotic technologies which could be used in the Space Station.

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43 GIGAN TORINO, runs great! All good tires, AM/FM cassette. Excellent, inexpensive transportation. Must, sell! \$450. Contact Ed, 253-2759.

78 FJAT X19, A/C (needs work), new battery (tires, professional valve job, runs great. Need to sell, \$2400.00. Call 257-5066, ask for Robert.

71 DODGE DART, 340 hp performance motor, hi-rise manifold and Holley four barrel carb. Ask for Bill at 383-4465.

85 CAMARO, rebuilt engine and trans, headers and more. New tires. Price \$2200. Run 1200 or drop-by room 347, Dorm 1, ask for Sale.

71 DODGE BART, New battery, new starter, new radiator, new carb, good condition, need to sell immediately. \$630.00. Call 257-5069, ask for Yas or Robert.

76 BUICK ELECTRA, good condition, loaded - PB, PW, AM/FM stereo, new tires. Must sell!!! Call Ext. 1407 or 256-0542. e.

76 CHRYSLER CORDOBA, PB, PW, Power Seat, heater, A/C, clock, velour interior, fully carpeted, tilt steering, cruise control, AM/FM radio, and more. Will sell for \$1000. Graduating senior. Contact "Chris" at "Box 1028" or call 258-6219. Hurry, first come first serve.

76 TOYOTA COROLLA DELUXE, auto trans, A/C, AM/FM & track, red w/black top/interior, good tires. Engine and struts in excellent shape. Call 761-2914 or 761-1311.

76 CAMARO, rebuilt engine and trans. New tires. \$2200. Contact Sale, Box 1292.

75 CHEVY CAMARO, PB, PS, auto, V-4, A/C, good steel belted radials, excellent transportation! \$1250.00 or swap for your motorcycle of equal value. Call 253-3194.

78 FORD LTD II, A/C, 8-track AM/FM stereo, belt offer. Box 8145 or call 258-3819.

71 DODGE CUTLASS, 300 4br, TH350, PS, PB, A/C, new front tires, extra starter and A/C cond. belt offer. Box 7608.

83 TOYOTA SUPRA, 25,000 miles, grey w/black piping. Fully loaded w/strip computer, OD, sunroof. Asking \$10,500 or take over payments. Call 252-4196 anytime.

81 YAMAHA IT 250 Enduro, must-sell! Street legal - Good condition. Shock recharged, new sprockets. Asking \$750.00. Need money for next motor immediately. Contact Box 6517 (Cherry) or at 255-9876 after 9:00 p.m.

78 HONDA CB 750F, very good condition, custom paint job. Show best! Excellent. Factory manual, new helmet and bike cover included. Must sell fast! \$1500.00. Call 253-9639 or Box 2157.

HONDA CB 400, includes crash, rack, crash bars and has low mileage. First \$400 takes it. Call 258-9696, ask for Tony.

81 KAWASAKI KZ 550, best condition, many extras. Call Doug 256-7388.

79 HONDA 750 F, good condition, new exhaust, chain, tires and palm. \$800. Call 766-2107.

82 500 YAMAHA VISION, red/black, 5000 miles, \$2000. Call 1-427-5027 after 6:00 p.m. New Smyrna Beach.

80 KZ 440, excellent condition. Kerker holder, new front tire. \$600.00. Ask for Mike or Bill at 783-4465.

81 SUZUKI GS 450, perfect transportation, excellent running condition. First \$450 takes it! Call 672-1859 after 5:00 p.m.

75 SUZUKI TS 185 Enduro, 20,000 miles, \$1000 by christina. Call Doug after 6:00 p.m., 252-7396.

78 GS 750 EC, good cond., only 14,500 miles. Comes with windshield, extra tire, manual and extra-chute. New rear tire, ignition coil, ignition wires and heavy duty clutch. Only one dollar per an \$149. Call Harold at 761-3181 or Box 6432.

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82 YAMAHA LT 250 J, very fast, ported cylinder. Answer silence and stock exchange, new chain and sprockets and throttle cable. Extra tires and complete front wheel. Extra brake pads and sprockets. Steel work stands included. \$850. Call Mike at 756-2386 or Box 8605.

83 YAMAHA XT 125 J, perfect running condition, only 6,000 miles on it. 1 owner. Asking \$500, new sprockets, includes Bell Moto III helmet. Must sell, call 252-6040, ask for Ray or contact Box 3112.

HONDA CB 400, great shape, crash bars, electric start, evans. First \$400 takes it. I'm leaving town. Call Tim, 253-9819.

FOR SALE - Honda CR800. Runs good. Make me an offer. Call 253-7308, ask for Matt or Box 4012.

83 KAWASAKI 750 LTD, 1400 miles, very good shape, clean, must sell, asking \$2100, will take Contact Andy, Box 7272 or Air Comp. 1, Box 123.

75 HONDA CB 125, excellent transportation, \$125.00. Call Ralph at 677-9990 between 3:00 p.m. and 11:00 p.m. every day but Monday.

77 KAWASAKI KZ300, w/Yoghirmura black header. Best offer, must sell, graduating fall term. Call John, 255-5229.

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travel

RIDER WANTED to Boston to show gear and driving. Leaving between 7:10-8:30. Call Dave at 677-7947.

RIDE NEEDED in Acrylic, Mass. on Sat or 15th of December; and back to school in January for the 2nd or 3rd. Please call 255-3806 after 6:00 p.m.

HELP! I want a ride to Chicago for the Christmas break. If your heading that way, let me know. I'm willing to pay my share of expenses. Contact Tim, Box 7745 ASAPI.

miscellaneous for sale

1978 C-152, excellent mechanical condition. W/Comet, Radio/XMIRIE, 2100 TT, 600 STRO, 1700 SMOH, dual lighting, new batteries, Horatic, ELLI, discs, pads and bearings, etc. Make an offer. Call 761-0424.

DON'T WAIT - BUY HD2 best gear, huge Kiaz 400 frame, pedaled, only \$150, W/steer and liner. Call Ray 788-7379.

SCUBA Gear, Mask, fins, and snorkel. All equipment like new, used only once. Asking \$70.00. Must sell. Call 767-9262, Box 6017.

NATURAL ART 67' surfboard w/angle strap. Nice shape. Only \$70.00. Call Greg 253-9996 or Box 5963.

ATTENTION - GEORGE - Moving this 1/7! How about a car-top carrier. Paid \$75, asking \$25. Must sell. Call 257-2645 or Box 1067.

A 18" ZEMITH COLOR TV for sale. \$108.00. Call 767-6170 after 9:00 p.m. or Box 4152.

MOVING, MUST SELL!!! Twin size bed, excellent condition. \$40.00. \$100.00. Good back included. \$30. Call 755-2660. Ask for Luis or Box 7228.

SURFBOARD FOR SALE, Nickels 1/2" single fin. Asking \$70. Contact Recreation 8-5 Ext. 1071 or after 5:30 p.m. 767-1450.

SPRING SUIT, Men's medium, O'Neil, 2 years old. Box 7926 or 255-9471 after 6:30 p.m.

SURFBAG, 57" C.B. twin fin, dry bag green and blue. New this spring. Cannon made cover. Box 7926 or 255-9471 after 6:00 p.m.

SLOTTED DISK MAGS, a set of 4 wheels, 7/14 fit a Chevy. \$109. 257-1850 ask for Michael.

10-SPEED BICYCLE, excellent condition, \$75 list price. Contact Sale, Dorm Room 347, Box 1292.

82 FORD ESCORT L, four-door, 32,000 miles, power steering, 4-speed, including sun, cloth interior, new tires, HD engine, AM/FM cassette w/overhead booster. Excellent condition. \$4000. Call 258-1886, ask for Ed.

HOUSE SALE, everything must go (and the house)! Couches, chairs, water bed, kitchen stuff, etc. Sunday December 9, 331 Ribault Ave. (3 blocks north of Silver Beach) Call 255-2559.

SANYO PORTABLE RADIO/cassette player, AM/FM, 2 short wave bands, medium size, automatic music search, great sound, \$200 first come, first served. Call 756-2738 or call for drop a note in my Box 7848.

LOOKING FOR CHRISTMAS presents? I have hand-woven African baskets that make-dm presents for mothers, sisters, girl friends, etc. I also have woven African carvings and masks. Large variety and excellent prices. Please contact me immediately if interested. African Mad-dad, Dorm 1 Room 131, Box 7476.

SCHWINN LE TOUR, best offer above \$1000. Contact Stuart at Box 7490 or 788-1026.

RADIO SHACK, TRS-80, pocket computer, model PC-2. Price: Printer/Printer (4 colors), camera lens/film, software, magnetic PC-2 "Basis" book-Price: \$300. (negotiable if interested). Drop note in Box 7311 (George).

WEIGHTS - 48 lbs, 2 small barb, 355. Two velour slinger suits w/leg weights, \$200. 3/4" half lamp, 150. Standing shelves, 1/4" 5/17", \$40. Call Ken 253-2141 or Box G109.

MUST-SELL! Like new ROSS 10-speed bike \$70. Large metal desk \$5. End-table \$3. Small dresser \$10. Call Mark at 761-5731 at night or at Ext. 1139 at 253-4888.

BEACH CRUISER, 1 year old, safari rack, map, lock, good case. Box 7926 or 255-9471.

123 POUND BARBELL/dumbbell set with rotating bench. 1 year old. Call Mike, 253-2141 or Box 7302.

REFRIGERATOR, full size with freezer, great for second fridge or bar fridge. Must sell, graduating. Call 677-7726, Mike.

CAR STEREO, Unist-AM/FM cassette deck with auto-reverse and 380 W booster with 80 200 W-400 speakers (2-way). 20 200 W 45' 3-way speaker. Asking \$150.00. Box 7148.

rooms for rent

ROOMMATE NEEDED to share 2 bdrm house. \$147.50/month. 1/2 utilities. Call 761-9731.

NEED ROOMMATE IMMEDIATELY in Cypress. 2 bdrms. Pool, dishwasher, utilities. Sat/Fin Place. Call Jim 328-3028 or Box 1196.

ROOM FOR RENT, 3 bdrm house, approx. 2 miles from school. \$225/month plus 1/2 utilities. Call Mike 255-7854 or 252-5561, Ext 1340 days.

FEMALE ROOMMATE wanted. Share apartment 2 blocks north of Seabreeze. \$150/month + 1/2 utilities. Call 258-7501.

ROOMMATE WANTED to share 2 bdrms, 1 bh, apt with balcony, phone, pool, tennis courts, A/C and heat and laundry facilities available. Only 3 miles from campus, located at River Run Apartments. Available beginning December 1. Rent \$170/month plus 1/2 utilities. Deposit \$500. Call Rich 253-6095 or Box C226.

ROOMMATE WANTED, non-smoker 3 bdrm house in Port Orange. Will share 1/2 expenses. No pets, please. Very quiet area. Serious students only. Call 767-4486 after 5 p.m.

NEED ONE ROOMMATE, (male or female), 2 bdrm apt, furnished, new carpet, A/C, heater, walk-in closet, swimming pool, 3 miles from school, \$160/month plus 1/2 utilities. Available January 1. Interested? Call 255-3708.

TWO ROOMMATES WANTED, Must be non-smoker, non-heavy drinker. I have two bedrooms available in a 4 bdrm house, 2 bh, kitchen, dining room, living room, family room, 2 car garage, central heat and air, dish washing machine, washer and dryer, gigantic backyard. All utilities included in monthly rent. Must see to appreciate, only 5 miles from school on Clyde Morris in Port Orange. \$300/month. Call David 257-1062 or Box 1097 (call before 11:00 a.m.).

TWO ROOMMATES WANTED for January, halfway between the beach and school, Harbor Winds (formerly Buena Vista) where you'll enjoy the tennis courts, pools, your own rooms and more. All for only \$140/month plus 1/2 utilities. For more info call 253-0495 (before 12 or after 6:00 p.m.)

ROOMMATE NEEDED to share a 3 bdrm apt. with 2 furnished, Male/Female w/dishes. Significantly furnished with pool in backyard, A/C, heat, ladder, tennis courts, 1 mile from E-RAU. \$175 plus 1/2 util. Call 253-3306.

ROOMMATE WANTED for spring trimester. Near 2 bdrms. Swimming, furnished, 3 miles from school. Washer and dryer. Cable and HBO. Rent \$300 plus 1/2 expenses plus \$175 deposit. Non-smoker. Call 756-0819.

ROOMMATE NEEDED, nice, comfortable, 2 bdrm apt, 1 1/2 baths, with balcony, air, phone, pools, tennis courts, laundry, 3rd floor. Non-smoker and, dishwasher, serious students only. \$105 plus 1/2 utilities. Contact Tom at Box 5355 or 255-9207.

ROOMMATE NEEDED, 2 bdrm, 2 bath, 3 miles from school at the Barrington. Must rent/rentals, nice room, big enough for a couple of people. Pool, dishwasher, disposal, \$200/month. 1/2 electric. \$200 security. Available now! Contact Sue, Box 5032.

NEED A ROOMMATE, available for spring term, will split rent and utilities. 2 bdrms, 2 baths. \$143/month. In a 3-bdrm bedroom apartment 1 1/2 miles from school. For more info call 257-6348 or Box 7933.

ROOMMATE NEEDED, starting January 85, to share two bdrm apt. in Cypress. 2 bdrms, 2 baths, 1/2 utilities. \$175/month. 1/2 utilities. Note: rent not include. Call 253-2394.

ROOM FOR RENT, your own room in a 3 bdrms, 2 bh house. Located 5 miles from campus (Ormond). Full kitchen, 1 1/2 car garage, washer and dryer, HBO, CINEMAX, A/C and central air conditioning. Rent is \$100/month w/ electric, water, phone, and cable TV. First and last month + deposit required. \$475. Leave name and phone number in Box 4346.

ONE BDRM APARTMENT, spacious living room, new carpet, central air/heat, private parking. 5 minutes from school. Rent is \$100. \$100 deposit. \$100. \$380/month. December or January 1 through April 30. E-RAU Box 4083.

ROOMMATE WANTED, to share a house, 3 bdrms, 2 bh, heat, A/C, cable TV, non-smoker. \$100/month, \$100 deposit. Available Dunbar 1, Port Orange area. Contact Guq, 788-5795.

ROOM FOR RENT, for spring trimester. Move in after December 13. Completely furnished, nice, clean, and neat. \$150/month, A/C heat, and inexpensive. \$150/month + \$100 security deposit. 1/2 utilities, everything else paid. Located at 1133 Ridgewood Ave., Apt. no. 3 between Beville and Bellvue, across from Sir Steak Restaurant. Male or female, must be neat and easy to get along with. If interested contact Mike, Box 6468 or 756-2716 or stop by apt.

ROOMMATE NEEDED to share brand new condo located in Holly Hill, 2 bdrms, 2 bth, pool, tennis courts, laundry, much furniture. Rent \$225/month. 1/2 electric. \$200 security, must be neat, located in good section. Call David 257-6179, Box 3373, also available, 2 bdrm 1 bh, w/all of above, \$210/month.

miscellaneous

HELP WANTED for a local survey seeks persons for telemarketing to register home owners for a Free energy survey. Set own hours. Make a pleasant, clear speaking voice. Call Mon-Fri. 10 a.m. - 2 p.m., 672-3264.

WANTED, I need to borrow or rent a motorcycle trailer for the week of December 23-28. Anyone being able to accommodate please call Arthur at 677-5056. If not home leave message on recorder.

QUALITY WORK done fast and reasonably. Specialist on engine overhaul and transmission. Complete auto-service. Ask for Hussein, 761-2914 or 761-1311.

BASIC AEROBIC INSTRUCTION, includes loops, rolls, snaps, hand-stands, etc. All done in a group. (C-132A). For more info contact Pete at 252-1664 or E-RAU Box 1364.

EVER THINK ABOUT VOLUNTEERING? Volunteering your talents and skills and hobbies? Call the Volunteer Service Bureau. They take people's valuable talents and skills and put it to work helping others. The Volunteer Service - You can make a difference! Please contact the United Way of Volusia County, Volunteer Service Bureau at 253-0563 or 427-7714.

AC RENTAL, be a member and Pay for \$10.00/hour plus fuel! Call (305) 321-0219 or (904) 257-5264.

BEACH YAMAHA



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PROFESSIONAL TYPING. Term papers, resumes, manuscripts, literary review, technical reports. All work done on word processor. Fast, efficient service. Call (513) 459-1199.

PROFESSIONAL TYPING, reasonable rates, call Mary Est. 1241. CASH REWARD for jacket lost by B-50 Thursday, November 15. Contact Bob 7348 (no questions asked).

FOUND WARD by racehobby owner Friday night. Call Frank to identify, 761-8246.

HERE'S AN EASY way to pay for your tuition at E-RAL. Invest in Real Estate. We have 1st, 2nd and investment mortgages. Contact Bob Cunningham at Tenant Mortgage Co., 234-3000.

\$100 REWARD for lost jacket! It was lost somewhere. In the aviation maintenance building. Please, if you find a blue wool jacket with the letters "E-RAL" on it, please contact me, Bob Ross, Michael Keenan. Thank you!

personals

Honorable Okana-San. Ever since I have come to your rosy county I have been treated like fast lady. When I was born in my native Japan, honorably employed. I took great pride in building me, but ever since you own me it is like Pearl Harbor is reversed! You drive me 'til I hibernate, shift me like an around corner 'til I slip my clutch and spend on my brakes 'til my sandals get too hot. Are you Kamakazi or something? You know I was out of when I left my car in the repair shop this past Monday, and without my parent you knew I would look...but no-o-o-o! You had to go to New York! If you do you will see me with my comat-Herkin in your parking lot.

How you like those Chinese appetizer? Dishonorably disgraced!

Thanks B-10 527-Knock of parts

There will be one last party at 311 Rivault Ave Saturday, December 8. Drink like fish...Call 255-2759.

Diane. My salary bands are out of control. Hey, that's the Encyclopedia Britanica. I'm also glad to see you. Happy B-Day you Animal.

Love. Pedro

Earl Street. Where are you? The four bones went to the other day and you been gone. If you play your wails could jamm...smash out John...M...I'm also glad to see you. See you in the spring rally.

Pleasant Avenue. Hoop II. Ich Liebe dich, forever!

Hoop I. 672-2247

If you thought your recording last week was great, I'm glad I'm not your girlfriend!

0001. 0001.

Sorry about that! Give us a call - we accept requests. By the way, I'm glad you're not my girlfriend either if you don't like jazz.

672-2247

Keep trying, but remember you're getting used from innocent. Though the trial is not usually long.

Batle Cat

If you thought last week's recording was something, try this one: 672-2247.

N Hatch. Have fun with DDD the LBFM. You are the fourth of what appears to be a long string of brothers.

Marty Garbo

PITA. Not talkin' to ya this weekend. I'm sure I'll change your something out if you'll keep looking on ice cubes. Husbands are still no. 1.

PTFN

Jeff. I'm ready for those Boston pancakes. Here's to adding new meaning to "out and about". When Plum Island calls - don't try! Carl's package is in the mail. Harry with those baked goods! How about some Wailey's Red Barrel.

Maintainin'g. Tony

In the beginning there was chaos...When man roamed the Earth without order. Then came civilization...And with it came authority, conformity and law. And out of this unnatural order came the social critic...an observer, a cynic...

Renegade Rebel

Rebes. This is for now. One more and we'll rest on our laurels for a while...I don't want that time did you see the alarm for?

Bizarre

Sci. Sci-head - make my night.

Sorceress

Clemson Girl. Enjoyed the late night phone call. Sharpen those Hegseth skills and find an appropriate statement. Being interested is quite natural in your case.

Daytona Man

GE honors sixteen for contributions to aviation

Waltz Minis and Oud. I'm coming home and I can't wait! It's been a year (too-long since my last visit. The home cooking, including the lawn (the), the mountains, the snow, the ice skating and all the friends are just some of the things I've missed. I'll be on Doka from Dallas arriving at 8:30 p.m. City, Solitude, Belgium, Deer Valley and Park West - here I come!

Dreaming of Utah skiing. Your no. 1. Steve

Max. Enjoyed the St. Augustine road trip. Got over the natural disaster overlord activities but thought the arm wearers were too much. The next time you make a U-turn with a clouded mind, make it without me. Here's to spreading gray hair. Mr-sick & move; now I can't be like you. Oh yes, communication was made appropriately for the existing situation. See you at the Sabon.

TP

Bob. Welcome back! Keep a few days open for the guys and some old-time endeavors. The Philadelphia cream cheese scam is well deserved at this point.

Bryan. Now that he's here, let's do it! All of the 'birds are leaving the nest for matrimony. What happened? First Bruce and now Bob. Ah, the falling of a heart that was once driven by party stacks is now contained by party lines. To the last of the bachelors go the best of Cyber Poly activities and the tapes of A.M. Get the RV ready and look out. Chateaus here we come - when New York?

Roanoke

Max. Double date makes me crazy. Competitive attitudes abound in proportions beyond my realm of thinking. Who responded to Carpe Diem and parking with a purpose? I guess a meta is a meta is a meta. It's like they say: Why was two when one will do.

Beaumont Metastat User! Help stop the preparation of so-called "trials" which is pervading the aviation today. Devolution is the answer. Doxy now for the future! Respond via this medium.

Smart Patrol Dear newspaper,

You've been good to me, most of my friends are your friends too. This is a lot of you. Together we've grown and learned about life. Believe me, you look real different when I first met you four years ago. My hat goes off to the Avion and all the people I have had the pleasure to work with as both a reporter and an editor. It's my last issue on the mast. It's time for a new brand to take over. There's still more backNVAing to do and more colleagues to deal on. Here's to a prosperous and profitable Spring 1985; we may never see this way again.

Half the Fax Max

EVENDALE, Early contributors to the growth of an aviation industry, which accounts for annual U.S. sales of nearly \$85 billion and employment of approximately 600,000 people, were today officially inducted into the General Electric Aircraft Engine Group Propulsion Hall of Fame here.

General Electric welcomed 16 new members into the Propulsion Hall of Fame, established in 1982 as a permanent means to commemorate those who have made history in jet engine technology. In addition, four earlier inductees - General Rene Ravaut, Sir Frank Whittle, Gerhard Neumann, and Jack Parker - were formally recognized for their significant contributions to the field of aircraft propulsion.

Brian H. Rowe, senior vice president and group executive of the Aircraft Engine Business Group, told the assembled inductees during ceremonies today: "Your engines have changed the world, conquered time and space, brought us closer together, pro-

tested our freedom."

"The aerospace industry is a vital part of our economy," said Rowe. "That industry has contributed a trade surplus of \$50 billion to United States international trade over the past five years. In short, aviation has grown from a great idea at the start of the century to a great industry today."

Currently, more than 140,000 people, including 31,000 at the Aircraft Engine Business Group, are employed by the aircraft propulsion industry in the United States alone.

The achievements of these individuals are magnified. Sir Frank Whittle's engine design led General Electric to develop the first United States jet engine, the J-A. The foresight of Jack Parker led General Electric into the small engine business, the development of commercial as well as military products, and expansion into the international marketplace.

Gerhard Neumann spent 31 years working on General Electric jet engines, developing dir-

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Advertising in the Avion. The Avion is read weekly twelve times during its full year, and is the most widely read publication in the aviation industry. It is the only publication that reaches the entire aviation community. The Avion is read by pilots, flight attendants, ground crew, and all those who are involved in the aviation industry. The Avion is a must-read for anyone in the aviation industry. The Avion is published by the International Employment Directory. The Avion is available through the advertising department for \$3.75 per copy. The Avion is published by the International Employment Directory. The Avion is available through the advertising department for \$3.75 per copy.

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More than 80,000 Americans are included members of the armed services - are now living overseas. These people are engaged in nearly-every possible activity - construction, engineering, sales, transportation, secretarial work, accounting, manufacturing, oil refining, teaching, nursing, government, etc. etc. And many are earning \$2,000 to \$5,000 per month - or more!

To allow you the opportunity to apply for overseas employment, we have researched and compiled a new and exciting directory on overseas employment. Here is just a sample of what our International Employment Directory covers.

(1) Our International Employment Directory lists dozens of cruise ship companies, both on the east and west coast. You will be told what type of positions the cruise ship companies hire, such as deck hands, restaurant help, cooks, bartenders, just to name a few. You will also receive several Very Important Application Forms that you may send directly to the companies you would like to work for.

(2) Firms and organizations employing all types of personnel in Australia.

(3) Companies and Government agencies employing personnel in nearly every occupation, from the unskilled laborer to the college trained professional man or woman.

(4) Firms and organizations engaged in foreign construction projects, manufacturing, mining, oil refining, engineering, sales, services, teaching, etc., etc.

(5) How and where to apply for overseas Government jobs.

(6) Information about summer jobs.

(7) You will receive our Employment Opportunity Digest, jam-packed with information about current job opportunities. Special sections feature news of overseas construction projects, executive positions and teaching opportunities.

80 Day Money Back Guarantee. Our International Employment Directory is sent to you with this guarantee. If for any reason you do not obtain overseas employment or you are not satisfied with the job offers, simply return our Directory within 90 days and we'll refund your money promptly...no questions asked.

ORDER FORM. International Employment Directory. 131 Elms Dr. Dept. 721. Centralia, WA 98531. Please send me a copy of your International Employment Directory. I understand that I may use this information for 90 days and if I am not satisfied with the results, I may return your Directory for an immediate refund. On that basis I'm enclosing \$20.90 cash... check... or money order... for your Directory. NAME: ADDRESS: CITY: STATE: ZIP: International Employment Directory 1884

A growing American problem

Awareness and counseling are the keys to suicide prevention

By Max Corneau

In our increasingly antisocial society there are a few subjects that are still very taboo: incest, adultery and homosexuality being some of the obvious cases.

Suicide, because we don't like to deal with it, is fast becoming a major cause of death among adolescents and collegians in particular. Embury-Riddle students suffer little, relative to our collegiate counterparts.

Suicide can be attributed to very many causes, from substance abuse to impulsive behavior. However, if a bottom line were to exist, in most cases it would be depression.

For someone to snuff out the flame of his or her own life, they are usually extremely depressed. Depression, for most of us plays a minor role in our lives during the holidays, however, for some, the level of depression skyrockets during this time. Also, final exams are upcoming and some students will be faced with pressures they are unable to deal with.

The inability to deal with and achieve what they set out to do may possibly trigger lengthy and deep agitated depression in a few students.

Lynne Evans, Counseling Coordinator and the latest addition to the staff of the Counseling Center here at Embury-Riddle emphasized, "People need to get their stressful feelings out in the open. Anyone who appears agitated or depressed should be spoken to. Here friends and roommates can play a big role." At the campus level, the Counseling Center has a well prepared staff on hand to deal with depression or disturbed students.

Linda Bloom, Director of the Counseling Center, explained, "We can help identify people who are potentially suicidal. Also, we are able to help the supportive people deal with someone else's depression. If no one at the Counseling Center is able to help, then we can do a

referral to the County Crisis Center."

Unfortunately the students who may have the greatest need for the services of the Counseling Center may be the ones who avoid the office. Once again, people who display patterns of depression should be counseled by a roommate, or a friend, or anyone with a personal concern.

One of the dark ironies of the phenomenon of suicide is that we don't openly discuss it especially among disturbed or depressed people. During the pressure-filled holiday months these people need special care and attention. Statistically, people who have attempted suicide at one time or another are likely to do so again. For the purposes of suicide prevention, these people should be specially cared for.

The crisis intervention, Human Resources Center here in Daytona deals with suicidal people on a county-wide level.

In a recent phone interview, Tim McMahon, of the Crisis Intervention Center in Daytona Beach, explained the state funded service he works for. "As far as students in this area, we don't get a lot from Embury-Riddle. Probably because the University has a fairly in-depth Counseling Center. We normally deal with people who are acutely suicidal that refuse other counseling."

McMahon pointed out that Embury-Riddle students tend to face more professional pressures than the majority of students at either DBCC or B-CC. "Usually the students from Embury-Riddle that we see are the ones who don't want to deal through the University because they fear the implications of psychiatric counseling relative to their flying careers."

McMahon pointed out that counseling is not considered psychiatric care so students who are troubled should not be inhibited by the stigma of psychiatric care hanging over their heads. McMahon went on

to say, "If the person does, in fact, receive psychiatric care through the center, they are protected in Florida by a privacy act."

McMahon, the Hotline staffer, pointed out that the services provided by the Crisis Intervention

Center are not cures for people's problems. "Over the phone, I try to offer positive solutions to what a person might be telling me. It's hard though, not to have face-to-face contact with the person you're dealing with. Our efforts are like putting a band-aid on a

Wound - but this will last and need greater attention. We try to stop people from taking their lives or otherwise doing themselves harm - then we work from there."

Finally, make a pledge to yourself this Christmas season to open up and observe peers for

signs of depression or other why behavior patterns. Intervention is one of the keys to avoiding suicide. And if by discussing it openly we are able to prevent self destructive behavior among ourselves, isn't that a step in the right direction?

Contras gain support from Miami Cubans

By Jack Anderson and Joseph Spear

WASHINGTON

American CIA agents aren't the only outsiders who have been supporting the anti-Sandinista "contras" in Nicaragua. Anti-Castro Cubans exiles in Miami have been supplying cash and weapons - even a few of their own people - to the guerrilla groups seeking the Managua regime's overthrow.

But there's a problem. The fanatically anti-communist Cuban emigres are embarrassing the Nicaraguan contras by their willingness to use questionable tactics in the fight against the left-

ist Sandinista regime. Part of the trouble concerns image. The contra leaders, while staunchly anti-communist, consider themselves Nicaraguan patriots trying to rescue their homeland from tyranny. Indeed, some of them, like Eden Pastora ("Commander Zero"), are themselves revolutionaries, and are battling the Sandinistas for the betrayal of the revolution that overthrew a hated dictator, Anastasio Somoza.

In varying degrees, some of the contra leaders are probably willing to work out a compromise solution with the Sandinistas. Obviously, any negotiated settle-

ment would entail a process of reconciliation, and there is evidence suggesting that both sides have tried to prevent the kind of all-out conflict that would prevent an eventual negotiated settlement.

But the Cubans operate under no such restraints.

So the contra leadership has put some distance - literally - between its forces and the Cubans, by moving its camps into precarious locations practically on the Nicaraguan border. At one such forward camp, within sight of Lake Nicaragua across the border, our associate Jon Lee Anderson asked contra leader

Fernando "El Negro" Chamorro about the Cuban connection.

"We can't permit them to get involved as free-lancers," Chamorro said. "They have to incorporate with us." He said talks have begun on a merger that would put the Cuban-led troops under his command.

But there's some doubt that such a merger can take place. Some of the Cubans' recruits at their jungle camp in northwestern Costa Rica are contra deserters. "They recruited the worst elements," said the source, "the catfry thieves and the killers."

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